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## ## Source Code

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<https://github.com/eclipse-ee4j/injection-api>  
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es.kt", "js/src/kotlin/reflect/reflection.kt", "js/src/kotlin/regexp.kt", "js/src/kotlin/sequence.kt", "js/src/kotlin/text/CharC ategoryJS.kt", "js/src/kotlin/text/CharacterCodingExceptionJs.kt", "js/src/kotlin/text/StringBuilderJs.kt", "js/src/kotlin/ text/numberConversions.kt", "js/src/kotlin/text/regex.kt", "src/kotlin/text/StringBuilder.kt", "js/src/kotlin/text/stringsC ode.kt", "js/src/kotlin/text/utf8Encoding.kt", "js/src/kotlin/throwableExtensions.kt", "js/src/kotlin/time/DurationJs.kt", "js/src/kotlin/time/DurationUnit.kt", "js/src/kotlin/time/MonoTimeSource.kt", "js/src/kotlinx/dom/Builders.kt", "js/src/ kotlinx/dom/Classes.kt", "src/kotlin/text/regex/RegexExtensions.kt", "js/src/kotlinx/dom/Dom.kt", "js/src/kotlinx/dom /Mutations.kt", "js/src/org.w3c/deprecated.kt", "js/src/org.w3c/org.khronos.webgl.kt", "js/src/org.w3c/org.w3c.dom.cli pboard.kt", "js/src/org.w3c/org.w3c.dom.css.kt", "js/src/org.w3c/org.w3c.dom.encryptedmedia.kt", "js/src/org.w3c/or g.w3c.dom.events.kt", "js/src/org.w3c/org.w3c.dom.kt", "js/src/org.w3c/org.w3c.fetch.kt", "js/src/org.w3c/org.w3c.do m.mediacapture.kt", "js/src/org.w3c/org.w3c.dom.mediasource.kt", "js/src/org.w3c/org.w3c.dom.pointerevents.kt", "js /src/org.w3c/org.w3c.dom.svg.kt", "js/src/org.w3c/org.w3c.files.kt", "js/src/org.w3c/org.w3c.notifications.kt", "js/src/ org.w3c/org.w3c.workers.kt", "js/src/org.w3c/org.w3c.xhr.kt", "src/kotlin/annotations/Experimental.kt", "src/kotlin/an notations/ExperimentalStdlibApi.kt", "src/kotlin/annotations/Inference.kt", "src/kotlin/annotations/Multiplatform.kt", "src/kotlin/annotations/OptIn.kt", "src/kotlin/collections/AbstractCollection.kt", "src/kotlin/collections/AbstractIterato r.kt", "src/kotlin/collections/AbstractList.kt", "src/kotlin/collections/AbstractMap.kt", "src/kotlin/collections/AbstractS et.kt", "src/kotlin/collections/ArrayDeque.kt", "src/kotlin/collections/Arrays.kt", "src/kotlin/collections/BrittleContains Optimization.kt", "src/kotlin/collections/IndexedValue.kt", "src/kotlin/collections/MapAccessors.kt", "src/kotlin/colle ctions/MapWithDefault.kt", "src/kotlin/collections/MutableCollections.kt", "src/kotlin/collections/ReversedViews.kt", "src/kotlin/collections/SequenceBuilder.kt", "src/kotlin/collections/SlidingWindow.kt", "src/kotlin/collections/UArra ySorting.kt", "src/kotlin/comparisons/compareTo.kt", "src/kotlin/contracts/ContractBuilder.kt", "src/kotlin/coroutines/ ContinuationInterceptor.kt", "src/kotlin/coroutines/CoroutineContext.kt", "src/kotlin/coroutines/CoroutineContextImp l.kt", "src/kotlin/coroutines/intrinsics/Intrinsics.kt", "src/kotlin/experimental/bitwiseOperations.kt", "src/kotlin/experi mental/inferenceMarker.kt", "src/kotlin/internal/Annotations.kt", "src/kotlin/properties/Delegates.kt", "src/kotlin/prop erties/Interfaces.kt", "src/kotlin/properties/ObservableProperty.kt", "src/kotlin/properties/PropertyReferenceDelegates .kt", "src/kotlin/random/Random.kt", "src/kotlin/random/URandom.kt", "src/kotlin/random/XorWowRandom.kt", "src/ kotlin/ranges/Ranges.kt", "src/kotlin/reflect/KClasses.kt", "src/kotlin/reflect/KTypeProjection.kt", "src/kotlin/reflect/K Variance.kt", "src/kotlin/reflect/typeOf.kt", "src/kotlin/text/Appendable.kt", "src/kotlin/text/Indent.kt", "src/kotlin/text/ Typography.kt", "src/kotlin/text/regex/MatchResult.kt", "src/kotlin/time/DurationUnit.kt", "src/kotlin/time/Experimen talTime.kt", "src/kotlin/time/TimeSource.kt", "src/kotlin/time/TimeSources.kt", "src/kotlin/time/measureTime.kt", "src /kotlin/util/DeepRecursive.kt", "src/kotlin/util/FloorDivMod.kt", "src/kotlin/util/HashCode.kt", "src/kotlin/util/Kotlin Version.kt", "src/kotlin/util/Lateinit.kt", "src/kotlin/util/Lazy.kt", "src/kotlin/util/Numbers.kt", "src/kotlin/util/Suspend. kt", "src/kotlin/util/Tuples.kt", "unsigned/src/kotlin/UIntRange.kt", "unsigned/src/kotlin/UInterators.kt", "unsigned/src/k otlin/ULongRange.kt", "unsigned/src/kotlin/UMath.kt", "unsigned/src/kotlin/UNumbers.kt", "unsigned/src/kotlin/UPr ogressionUtil.kt", "unsigned/src/kotlin/UStrings.kt", "unsigned/src/kotlin/annotations/Unsigned.kt", "common/src/kotl in/MathH.kt"], "sourcesContent": ["(function (root, factory) {\n if (typeof define === 'function' && define.amd) {\n define('kotlin', ['exports'], factory);\n }\n else if (typeof exports === 'object') {\n factory(module.exports);\n }\n else {\n root.kotlin = {};\n factory(root.kotlin);\n }\n})(this, function (Kotlin) {\n var \_ = Kotlin;\n\n insertContent();\n});\n", "/\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*\n\nKotlin.isBooleanArray = function (a) {\n return (Array.isArray(a) || a instanceof Int8Array) && a.\$type\$ === \"BooleanArray\"\n};\n\nKotlin.isByteArray = function (a) {\n return a instanceof Int8Array && a.\$type\$ !== \"BooleanArray\"\n};\n\nKotlin.isShortArray = function (a) {\n return a instanceof Int16Array\n};\n\nKotlin.isCharArray = function (a) {\n return a instanceof Uint16Array && a.\$type\$ === \"CharArray\"\n};\n\nKotlin.isIntArray = function (a) {\n return a instanceof Int32Array\n};\n\nKotlin.isFloatArray = function (a) {\n return a instanceof Float32Array\n};\n\nKotlin.isDoubleArray = function (a) {\n return a instanceof Float64Array\n};\n\nKotlin.isLongArray = function (a) {\n return Array.isArray(a) && a.\$type\$ === \"LongArray\"\n};\n\nKotlin.isArray = function (a) {\n return Array.isArray(a) &&

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!a.$type$;\n};\n\nKotlin.isArrayish = function (a) {\n  return Array.isArray(a) ||
ArrayBuffer.isView(a);\n};\n\nKotlin.arrayToString = function (a) {\n  if (a === null) return \"null\"\n  var
toString = Kotlin.isCharArray(a) ? String.fromCharCode : Kotlin.toString;\n  return \"[\" +
Array.prototype.map.call(a, function(e) { return toString(e); }).join(\", \") + \"]\";\n};\n\nKotlin.arrayDeepToString
= function (arr) {\n  return Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals =
function (a, b) {\n  if (a === b) {\n    return true;\n  }\n  if (a === null || b === null || !Kotlin.isArrayish(b) ||
a.length !== b.length) {\n    return false;\n  }\n  for (var i = 0, n = a.length; i < n; i++) {\n    if
(!Kotlin.equals(a[i], b[i])) {\n      return false;\n    }\n  }\n  return true;\n};\n\nKotlin.arrayDeepEquals =
function (a, b) {\n  return Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode =
function (arr) {\n  if (arr === null) return 0\n  var result = 1;\n  for (var i = 0, n = arr.length; i < n; i++) {\n
result = ((31 * result | 0) + Kotlin.hashCode(arr[i])) | 0;\n  }\n  return result;\n};\n\nKotlin.arrayDeepHashCode =
function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n
array.sort(Kotlin.doubleCompareTo);\n};\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.getCallableRef = function(name, f) {\n  f.callableName = name;\n  return
f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n  getter.get = getter;\n
getter.set = setter;\n  getter.callableName = name;\n  return getPropertyRefClass(getter, setter,
propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n
obj.$metadata$ = getPropertyRefMetadata(typeof setter === \"function\" ? cache.mutable : cache.immutable);\n
obj.constructor = obj;\n  return obj;\n}\n\nvar propertyRefClassMetadataCache = [\n  {\n    mutable: { value:
null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KMutableProperty0 }\n    },\n
immutable: { value: null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KProperty0 }\n
  }\n },\n  {\n    mutable: { value: null, implementedInterface: function () {\n      return
Kotlin.kotlin.reflect.KMutableProperty1 }\n    },\n    immutable: { value: null, implementedInterface: function
() {\n      return Kotlin.kotlin.reflect.KProperty1 }\n    }\n  }\n];\n\nfunction getPropertyRefMetadata(cache)
{\n  if (cache.value === null) {\n    cache.value = {\n      interfaces: [cache.implementedInterface()],\n
baseClass: null,\n      functions: {},\n      properties: {},\n      types: {},\n      staticMembers: {}\n
};\n  }\n  return cache.value;\n}\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.toShort = function (a) {\n  return (a & 0xFFFF) << 16 >>
16;\n};\n\nKotlin.toByte = function (a) {\n  return (a & 0xFF) << 24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n
return a & 0xFFFF;\n};\n\nKotlin.numberToLong = function (a) {\n  return a instanceof Kotlin.Long ? a :
Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function (a) {\n  return a instanceof Kotlin.Long ?
a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort = function (a) {\n  return
Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n  return
Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n  return
+a;\n};\n\nKotlin.numberToChar = function (a) {\n  return
Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n  if (a > 2147483647) return
2147483647;\n  if (a < -2147483648) return -2147483648;\n  return a | 0;\n};\n\nKotlin.toBoxedChar = function
(a) {\n  if (a == null) return a;\n  if (a instanceof Kotlin.BoxedChar) return a;\n  return new
Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar = function(a) {\n  if (a == null) return a;\n  return
Kotlin.toChar(a);\n};\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nKotlin.equals = function (obj1, obj2) {\n  if (obj1 == null) {\n    return obj2 ==
null;\n  }\n  if (obj2 == null) {\n    return false;\n  }\n  if (obj1 !== obj2) {\n    return obj2 !== obj2;\n
}\n  if (typeof obj1 === \"object\" && typeof obj1.equals === \"function\") {\n    return obj1.equals(obj2);\n
}\n  if (typeof obj1 === \"number\" && typeof obj2 === \"number\") {\n    return obj1 === obj2 && (obj1 !==

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0 || 1 / obj1 === 1 / obj2)\n  }\n\n  return obj1 === obj2;\n};\n\nKotlin.hashCode = function (obj) {\n  if (obj ==
null) {\n    return 0;\n  }\n  var objType = typeof obj;\n  if ("object" === objType) {\n    return "function"
=== typeof obj.hashCode ? obj.hashCode() : getObjectHashCode(obj);\n  }\n  if ("function" === objType) {\n
    return getObjectHashCode(obj);\n  }\n  if ("number" === objType) {\n    return
Kotlin.numberHashCode(obj);\n  }\n  if ("boolean" === objType) {\n    return Number(obj)\n  }\n\n  var str
= String(obj);\n  return getStringHashCode(str);\n};\n\nKotlin.toString = function (o) {\n  if (o == null) {\n
return "null";\n  }\n  else if (Kotlin.isArrayish(o)) {\n    return "["+o+"]";\n  }\n  else {\n    return
o.toString();\n  }\n};\n\n/** @const *\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol
type once we are on ES6.\n/** @const *\nvar OBJECT_HASH_CODE_PROPERTY_NAME =
"kotlinHashCodeValue$";\n\nfunction getObjectHashCode(obj) {\n  if
(! (OBJECT_HASH_CODE_PROPERTY_NAME in obj)) {\n    var hash = (Math.random() * POW_2_32) | 0; //
Make 32-bit signed integer.\n    Object.defineProperty(obj, OBJECT_HASH_CODE_PROPERTY_NAME, {\n
value: hash, enumerable: false });\n  }\n  return
obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n  var hash = 0;\n
for (var i = 0; i < str.length; i++) {\n    var code = str.charCodeAt(i);\n    hash = (hash * 31 + code) | 0; // Keep
it 32-bit.\n  }\n  return hash;\n}\n\nKotlin.identityHashCode = getObjectHashCode;\n", /*\n * Copyright 2010-
2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by
the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n *\n// Copyright 2009 The Closure
Library Authors. All Rights Reserved.\n *\n *\n// Licensed under the Apache License, Version 2.0 (the "License");\n
// you may not use this file except in compliance with the License.\n// You may obtain a copy of the License at\n
//\n// http://www.apache.org/licenses/LICENSE-2.0\n//\n// Unless required by applicable law or agreed to in writing,
software\n// distributed under the License is distributed on an "AS-IS" BASIS,\n// WITHOUT WARRANTIES OR
CONDITIONS OF ANY KIND, either express or implied.\n\n/**\n * Constructs a 64-bit two's-complement integer,
given its low and high 32-bit\n * values as *signed* integers. See the from* functions below for more\n *
convenient ways of constructing Longs.\n * The internal representation of a long is the two given signed, 32-bit
values.\n * We use 32-bit pieces because these are the size of integers on which\n * Javascript performs bit-
operations. For operations like addition and\n * multiplication, we split each number into 16-bit pieces, which can
easily be\n * multiplied within Javascript's floating-point representation without overflow\n * or change in sign.\n
*\n * In the algorithms below, we frequently reduce the negative case to the\n * positive case by negating the
input(s) and then post-processing the result.\n * Note that we must ALWAYS check specially whether those values
are MIN_VALUE\n * (-2^63) because -MIN_VALUE == MIN_VALUE (since 2^63 cannot be represented as\n * a
positive number, it overflows back into a negative). Not handling this\n * case would often result in infinite
recursion.\n *\n * @param {number} low The low (signed) 32 bits of the long.\n * @param {number} high The
high (signed) 32 bits of the long.\n * @constructor\n * @final\n *\nKotlin.Long = function(low, high) {\n  /**\n
 * @type {number}\n * @private\n *\n  this.low_ = low | 0; // force into 32 signed bits.\n\n  /**\n
 * @type
{number}\n * @private\n *\n  this.high_ = high | 0; // force into 32 signed bits.\n};\n\nKotlin.Long.$metadata$ =
{\n  kind: "class",\n  simpleName: "Long",\n  interfaces: []\n};\n\n// NOTE: Common constant values
ZERO, ONE, NEG_ONE, etc. are defined below the\n// from* methods on which they depend.\n\n/**\n * A cache
of the Long representations of small integer values.\n * @type {!Object}\n * @private\n *\nKotlin.Long.IntCache_
= {};\n\n/**\n * Returns a Long representing the given (32-bit) integer value.\n * @param {number} value The
32-bit integer in question.\n * @return {!Kotlin.Long} The corresponding Long value.\n *\nKotlin.Long.fromInt =
function(value) {\n  if (-128 <= value && value < 128) {\n    var cachedObj = Kotlin.Long.IntCache_[value];\n
if (cachedObj) {\n    return cachedObj;\n  }\n}\n\n  var obj = new Kotlin.Long(value | 0, value < 0 ? -1 : 0);\n
if (-128 <= value && value < 128) {\n    Kotlin.Long.IntCache_[value] = obj;\n  }\n  return obj;\n};\n\n/**\n
 * Converts this number value to `Long`. \n * The fractional part, if any, is rounded down towards zero.\n * Returns
zero if this `Double` value is `NaN`, `Long.MIN_VALUE` if it's less than `Long.MIN_VALUE`, \n *
`Long.MAX_VALUE` if it's bigger than `Long.MAX_VALUE`.\n * @param {number} value The number in
question.\n * @return {!Kotlin.Long} The corresponding Long value.\n *\nKotlin.Long.fromNumber =

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function(value) {\n if (isNaN(value)) {\n return Kotlin.Long.ZERO;\n } else if (value <= -
Kotlin.Long.TWO_PWR_63_DBL_) {\n return Kotlin.Long.MIN_VALUE;\n } else if (value + 1 >=
Kotlin.Long.TWO_PWR_63_DBL_) {\n return Kotlin.Long.MAX_VALUE;\n } else if (value < 0) {\n return
Kotlin.Long.fromNumber(-value).negate();\n } else {\n return new Kotlin.Long(\n (value %
Kotlin.Long.TWO_PWR_32_DBL_) | 0,\n (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);\n
});\n\n/**\n * Returns a Long representing the 64-bit integer that comes by concatenating\n * the given high and
low bits. Each is assumed to use 32 bits.\n * @param {number} lowBits The low 32-bits.\n * @param {number}
highBits The high 32-bits.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromBits
= function(lowBits, highBits) {\n return new Kotlin.Long(lowBits, highBits);\n};\n\n/**\n * Returns a Long
representation of the given string, written using the given\n * radix.\n * @param {string} str The textual
representation of the Long.\n * @param {number=} opt_radix The radix in which the text is written.\n * @return
{!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromString = function(str, opt_radix) {\n if
(str.length == 0) {\n throw Error('number format error: empty string');\n }\n\n var radix = opt_radix || 10;\n if
(radix < 2 || 36 < radix) {\n throw Error('radix out of range: ' + radix);\n }\n\n if (str.charAt(0) == '-') {\n return
Kotlin.Long.fromString(str.substring(1), radix).negate();\n } else if (str.indexOf('-') >= 0) {\n throw Error('number
format error: interior \"-\" character: ' + str);\n }\n\n // Do several (8) digits each time through the loop, so as to\n //
minimize the calls to the very expensive emulated div.\n var radixToPower =
Kotlin.Long.fromNumber(Math.pow(radix, 8));\n var result = Kotlin.Long.ZERO;\n for (var i = 0; i < str.length;
i += 8) {\n var size = Math.min(8, str.length - i);\n var value = parseInt(str.substring(i, i + size), radix);\n if
(size < 8) {\n var power = Kotlin.Long.fromNumber(Math.pow(radix, size));\n result =
result.multiply(power).add(Kotlin.Long.fromNumber(value));\n } else {\n result =
result.multiply(radixToPower);\n result = result.add(Kotlin.Long.fromNumber(value));\n }\n }\n return
result;\n};\n\n// NOTE: the compiler should inline these constant values below and then remove\n// these
variables, so there should be no runtime penalty for these.\n\n/**\n * Number used repeated below in calculations.
This must appear before the\n * first call to any from* function below.\n * @type {number}\n * @private\n
*/\nKotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;\n\n/**\n * @type {number}\n * @private\n
*/\nKotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;\n\n/**\n * @type {number}\n * @private\n
*/\nKotlin.Long.TWO_PWR_32_DBL_ =\n Kotlin.Long.TWO_PWR_16_DBL_ *
Kotlin.Long.TWO_PWR_16_DBL_;\n\n/**\n * @type {number}\n * @private\n
*/\nKotlin.Long.TWO_PWR_31_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ / 2;\n\n/**\n * @type
{number}\n * @private\n */\nKotlin.Long.TWO_PWR_48_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ *
Kotlin.Long.TWO_PWR_16_DBL_;\n\n/**\n * @type {number}\n * @private\n
*/\nKotlin.Long.TWO_PWR_64_DBL_ =\n Kotlin.Long.TWO_PWR_32_DBL_ *
Kotlin.Long.TWO_PWR_32_DBL_;\n\n/**\n * @type {number}\n * @private\n
*/\nKotlin.Long.TWO_PWR_63_DBL_ =\n Kotlin.Long.TWO_PWR_64_DBL_ / 2;\n\n/**\n * @type
{!Kotlin.Long}\n */\nKotlin.Long.ZERO = Kotlin.Long.fromInt(0);\n\n/**\n * @type {!Kotlin.Long}\n
*/\nKotlin.Long.ONE = Kotlin.Long.fromInt(1);\n\n/**\n * @type {!Kotlin.Long}\n */\nKotlin.Long.NEG_ONE =
Kotlin.Long.fromInt(-1);\n\n/**\n * @type {!Kotlin.Long}\n */\nKotlin.Long.MAX_VALUE =\n
Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);\n\n/**\n * @type {!Kotlin.Long}\n
*/\nKotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0, 0x80000000 | 0);\n\n/**\n * @type {!Kotlin.Long}\n */\n
@private\n */\nKotlin.Long.TWO_PWR_24_ = Kotlin.Long.fromInt(1 << 24);\n\n/**\n * @return {number} The
value, assuming it is a 32-bit integer.\n */\nKotlin.Long.prototype.toInt = function() {\n return this.low_;\n};\n\n/**\n
* @return {number} The closest floating-point representation to this value.\n */\nKotlin.Long.prototype.toNumber =
function() {\n return this.high_ * Kotlin.Long.TWO_PWR_32_DBL_ +\n
this.getLowBitsUnsigned();\n};\n\n/**\n * @return {number} The 32-bit hashCode of this value.\n
*/\nKotlin.Long.prototype.hashCode = function() {\n return this.high_ ^ this.low_;\n};\n\n/**\n * @param
{number=} opt_radix The radix in which the text should be written.\n * @return {string} The textual representation
of this value.\n * @override\n */\nKotlin.Long.prototype.toString = function(opt_radix) {\n var radix = opt_radix ||

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10;\n if (radix < 2 || 36 < radix) {\n   throw Error('radix out of range: ' + radix);\n }\n\n if (this.isZero()) {\n   return '0';\n }\n\n if (this.isNegative()) {\n   if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n     // We need to change the Long value before it can be negated, so we remove\n     // the bottom-most digit in this base and then recurse to do the rest.\n     var radixLong = Kotlin.Long.fromNumber(radix);\n     var div = this.div(radixLong);\n     var rem = div.multiply(radixLong).subtract(this);\n     return div.toString(radix) + rem.toInt().toString(radix);\n   } else {\n     return '-' + this.negate().toString(radix);\n   }\n }\n\n // Do several (6) digits each time through the loop, so as to\n // minimize the calls to the very expensive emulated div.\n var radixToPower = Kotlin.Long.fromNumber(Math.pow(radix, 6));\n var rem = this;\n var result = '';\n while (true) {\n   var remDiv = rem.div(radixToPower);\n   var intVal = rem.subtract(remDiv.multiply(radixToPower)).toInt();\n   var digits = intVal.toString(radix);\n   rem = remDiv;\n   if (rem.isZero()) {\n     return digits + result;\n   } else {\n     while (digits.length < 6) {\n       digits = '0' + digits;\n     }\n     result = " + digits + result;\n   }\n }\n\n\n/** @return {number} The high 32-bits as a signed value. *\nKotlin.Long.prototype.getHighBits = function() {\n  return this.high_;\n};\n\n\n/** @return {number} The low 32-bits as a signed value. *\nKotlin.Long.prototype.getLowBits = function() {\n  return this.low_;\n};\n\n\n/** @return {number} The low 32-bits as an unsigned value. *\nKotlin.Long.prototype.getLowBitsUnsigned = function() {\n  return (this.low_ >= 0) ?\n    this.low_ : Kotlin.Long.TWO_PWR_32_DBL_ + this.low_;\n};\n\n\n/** @return {number} Returns the number of bits needed to represent the absolute\n * value of this Long.\n\nKotlin.Long.prototype.getNumBitsAbs = function() {\n  if (this.isNegative()) {\n    if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n      return 64;\n    } else {\n      return this.negate().getNumBitsAbs();\n    }\n  } else {\n    var val = this.high_ != 0 ? this.high_ : this.low_;\n    for (var bit = 31; bit > 0; bit--) {\n      if ((val & (1 << bit)) != 0) {\n        break;\n      }\n    }\n    return this.high_ != 0 ? bit + 33 : bit + 1;\n  }\n};\n\n\n/** @return {boolean} Whether this value is zero. *\nKotlin.Long.prototype.isZero = function() {\n  return this.high_ == 0 && this.low_ == 0;\n};\n\n\n/** @return {boolean} Whether this value is negative. *\nKotlin.Long.prototype.isNegative = function() {\n  return this.high_ < 0;\n};\n\n\n/** @return {boolean} Whether this value is odd. *\nKotlin.Long.prototype.isOdd = function() {\n  return (this.low_ & 1) == 1;\n};\n\n\n/** @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long equals the other.\n\nKotlin.Long.prototype.equalsLong = function(other) {\n  return (this.high_ == other.high_) && (this.low_ == other.low_);\n};\n\n\n/** @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long does not equal the other.\n\nKotlin.Long.prototype.notEqualsLong = function(other) {\n  return (this.high_ != other.high_) || (this.low_ != other.low_);\n};\n\n\n/** @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is less than the other.\n\nKotlin.Long.prototype.lessThan = function(other) {\n  return this.compare(other) < 0;\n};\n\n\n/** @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is less than or equal to the other.\n\nKotlin.Long.prototype.lessThanOrEqual = function(other) {\n  return this.compare(other) <= 0;\n};\n\n\n/** @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than the other.\n\nKotlin.Long.prototype.greaterThan = function(other) {\n  return this.compare(other) > 0;\n};\n\n\n/** @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than or equal to the other.\n\nKotlin.Long.prototype.greaterThanOrEqual = function(other) {\n  return this.compare(other) >= 0;\n};\n\n\n/** Compares this Long with the given one.\n * @param {Kotlin.Long} other Long to compare against.\n * @return {number} 0 if they are the same, 1 if the this is greater, and -1\n * if the given one is greater.\n\nKotlin.Long.prototype.compare = function(other) {\n  if (this.equalsLong(other)) {\n    return 0;\n  }\n\n  var thisNeg = this.isNegative();\n  var otherNeg = other.isNegative();\n  if (thisNeg && !otherNeg) {\n    return -1;\n  }\n  if (!thisNeg && otherNeg) {\n    return 1;\n  }\n\n  // at this point, the signs are the same, so subtraction will not overflow\n  if (this.subtract(other).isNegative()) {\n    return -1;\n  } else {\n    return 1;\n  }\n};\n\n\n/** @return {!Kotlin.Long} The negation of this value. *\nKotlin.Long.prototype.negate = function() {\n  if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n    return Kotlin.Long.MIN_VALUE;\n  } else {\n    return this.not().add(Kotlin.Long.ONE);\n  }\n};\n\n\n/** Returns the sum of this and the given Long.\n *

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@param {Kotlin.Long} other Long to add to this one.\n * @return {!Kotlin.Long} The sum of this and the given
Long.\n */\nKotlin.Long.prototype.add = function(other) {\n // Divide each number into 4 chunks of 16 bits, and
then sum the chunks.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_
>>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n
var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00
+= a00 + b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &=
0xFFFF;\n c32 += a32 + b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &=
0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n/**\n * Returns the
difference of this and the given Long.\n * @param {Kotlin.Long} other Long to subtract from this.\n * @return
{!Kotlin.Long} The difference of this and the given Long.\n */\nKotlin.Long.prototype.subtract = function(other)
{\n return this.add(other.negate());\n};\n\n\n/**\n * Returns the product of this and the given long.\n * @param
{Kotlin.Long} other Long to multiply with this.\n * @return {!Kotlin.Long} The product of this and the other.\n
*/\nKotlin.Long.prototype.multiply = function(other) {\n if (this.isZero()) {\n return Kotlin.Long.ZERO;\n } else
if (other.isZero()) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n
return other.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return this.isOdd() ? Kotlin.Long.MIN_VALUE :
Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n if (other.isNegative()) {\n return
this.negate().multiply(other.negate());\n } else {\n return this.negate().multiply(other).negate();\n }\n } else if
(other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }\n\n // If both longs are small, use float
multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n
other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() *
other.toNumber());\n }\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can
skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 =
this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ &
0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00
= 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 += c16 >>> 16;\n
c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 * b00;\n c48 +=
c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a00 *
b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 * b32 + a00 * b48;\n c48
&= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n\n/**\n * Returns this
Long divided by the given one.\n * @param {Kotlin.Long} other Long by which to divide.\n * @return
{!Kotlin.Long} This Long divided by the given one.\n */\nKotlin.Long.prototype.div = function(other) {\n if
(other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return Kotlin.Long.ZERO;\n
}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if (other.equalsLong(Kotlin.Long.ONE) |\n
other.equalsLong(Kotlin.Long.NEG_ONE)) {\n return Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE
== MIN_VALUE\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ONE;\n
}\n } else {\n // At this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|.\n var halfThis =
this.shiftRight(1);\n var approx = halfThis.div(other).shiftLeft(1);\n if
(approx.equalsLong(Kotlin.Long.ZERO)) {\n return other.isNegative() ? Kotlin.Long.ONE :
Kotlin.Long.NEG_ONE;\n } else {\n var rem = this.subtract(other.multiply(approx));\n var result =
approx.add(rem.div(other));\n return result;\n }\n }\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n
if (other.isNegative()) {\n return this.negate().div(other.negate());\n } else {\n return
this.negate().div(other).negate();\n }\n } else if (other.isNegative()) {\n return
this.div(other.negate()).negate();\n }\n\n // Repeat the following until the remainder is less than other: find a\n //
floating-point that approximates remainder / other *from below*, add this\n // into the result, and subtract it from
the remainder. It is critical that\n // the approximate value is less than or equal to the real value so that the\n //
remainder never becomes negative.\n var res = Kotlin.Long.ZERO;\n var rem = this;\n while

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    (rem.greaterThanOrEqualTo(other)) {\n // Approximate the result of division. This may be a little greater or\n //
    smaller than the actual value.\n var approx = Math.max(1, Math.floor(rem.toNumber() / other.toNumber()));\n\n
    // We will tweak the approximate result by changing it in the 48-th digit or\n // the smallest non-fractional digit,
    whichever is larger.\n var log2 = Math.ceil(Math.log(approx) / Math.LN2);\n var delta = (log2 <= 48) ? 1 :
    Math.pow(2, log2 - 48);\n // Decrease the approximation until it is smaller than the remainder. Note\n // that if
    it is too large, the product overflows and is negative.\n var approxRes = Kotlin.Long.fromNumber(approx);\n
    var approxRem = approxRes.multiply(other);\n while (approxRem.isNegative() || approxRem.greaterThan(rem))
    {\n approx -= delta;\n approxRes = Kotlin.Long.fromNumber(approx);\n approxRem =
    approxRes.multiply(other);\n }\n\n // We know the answer can't be zero... and actually, zero would cause\n //
    infinite recursion since we would make no progress.\n if (approxRes.isZero()) {\n approxRes =
    Kotlin.Long.ONE;\n }\n\n res = res.add(approxRes);\n rem = rem.subtract(approxRem);\n }\n return
    res;\n};\n\n\n/**\n * Returns this Long modulo the given one.\n * @param {Kotlin.Long} other Long by which to
    mod.\n * @return {!Kotlin.Long} This Long modulo the given one.\n */\nKotlin.Long.prototype.modulo =
    function(other) {\n return this.subtract(this.div(other).multiply(other));\n};\n\n\n/**\n * @return {!Kotlin.Long} The
    bitwise-NOT of this value. */\nKotlin.Long.prototype.not = function() {\n return Kotlin.Long.fromBits(~this.low_,
    ~this.high_);\n};\n\n\n/**\n * Returns the bitwise-AND of this Long and the given one.\n * @param {Kotlin.Long}
    other The Long with which to AND.\n * @return {!Kotlin.Long} The bitwise-AND of this and the other.\n */\n
    Kotlin.Long.prototype.and = function(other) {\n return Kotlin.Long.fromBits(this.low_ & other.low_,\n
    this.high_ & other.high_);\n};\n\n\n/**\n * Returns the bitwise-OR of this Long and the given one.\n *
    @param {Kotlin.Long} other The Long with which to OR.\n * @return {!Kotlin.Long} The bitwise-OR of this and
    the other.\n */\nKotlin.Long.prototype.or = function(other) {\n return Kotlin.Long.fromBits(this.low_ |
    other.low_,\n this.high_ | other.high_);\n};\n\n\n/**\n * Returns the bitwise-XOR of this Long
    and the given one.\n * @param {Kotlin.Long} other The Long with which to XOR.\n * @return {!Kotlin.Long}
    The bitwise-XOR of this and the other.\n */\nKotlin.Long.prototype.xor = function(other) {\n return
    Kotlin.Long.fromBits(this.low_ ^ other.low_,\n this.high_ ^ other.high_);\n};\n\n\n/**\n *
    Returns this Long with bits shifted to the left by the given amount.\n * @param {number} numBits The number of
    bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the left by the given amount.\n */\n
    Kotlin.Long.prototype.shiftLeft = function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n return
    this;\n } else {\n var low = this.low_;\n if (numBits < 32) {\n var high = this.high_;\n return
    Kotlin.Long.fromBits(\n low << numBits,\n (high << numBits) | (low >>> (32 - numBits)));\n } else
    {\n return Kotlin.Long.fromBits(0, low << (numBits - 32));\n }\n }\n};\n\n\n/**\n * Returns this Long with
    bits shifted to the right by the given amount.\n * @param {number} numBits The number of bits by which to shift.\n
    * @return {!Kotlin.Long} This shifted to the right by the given amount.\n */\nKotlin.Long.prototype.shiftRight =
    function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n return this;\n } else {\n var high = this.high_;\n
    if (numBits < 32) {\n var low = this.low_;\n return Kotlin.Long.fromBits(\n (low >>> numBits) | (high
    <<< (32 - numBits)),\n high >> numBits);\n } else {\n return Kotlin.Long.fromBits(\n high >>
    (numBits - 32),\n high >= 0 ? 0 : -1);\n }\n }\n};\n\n\n/**\n * Returns this Long with bits shifted to the right
    by the given amount, with\n * zeros placed into the new leading bits.\n * @param {number} numBits The number
    of bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the right by the given amount, with\n *
    zeros placed into the new leading bits.\n */\nKotlin.Long.prototype.shiftRightUnsigned = function(numBits) {\n
    numBits &= 63;\n if (numBits == 0) {\n return this;\n } else {\n var high = this.high_;\n if (numBits < 32) {\n
    var low = this.low_;\n return Kotlin.Long.fromBits(\n (low >>> numBits) | (high <<< (32 - numBits)),\n
    high >>> numBits);\n } else if (numBits == 32) {\n return Kotlin.Long.fromBits(high, 0);\n } else {\n
    return Kotlin.Long.fromBits(high >>> (numBits - 32), 0);\n }\n }\n};\n\n\n// Support for
    Kotlin\nKotlin.Long.prototype.equals = function (other) {\n return other instanceof Kotlin.Long &&
    this.equalsLong(other);\n};\n\nKotlin.Long.prototype.compareTo_11rb$ =
    Kotlin.Long.prototype.compare;\n\nKotlin.Long.prototype.inc = function() {\n return
    this.add(Kotlin.Long.ONE);\n};\n\nKotlin.Long.prototype.dec = function() {\n return

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this.add(Kotlin.Long.NEG_ONE);
Kotlin.Long.prototype.valueOf = function() {
    return this.toNumber();
};
Kotlin.Long.prototype.unaryPlus = function() {
    return this;
};
Kotlin.Long.prototype.unaryMinus = Kotlin.Long.prototype.negate;
Kotlin.Long.prototype.inv = Kotlin.Long.prototype.not;
Kotlin.Long.prototype.rangeTo = function (other) {
    return new Kotlin.kotlin.ranges.LongRange(this, other);
};
/* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
@param {string} id
@param {Object} declaration
Kotlin.defineModule = function (id, declaration) {}
Kotlin.defineInlineFunction = function(tag, fun) {
    return fun;
};
Kotlin.wrapFunction = function(fun) {
    var f = function() {
        f = fun();
    };
    return f.apply(this, arguments);
};
return function() {
    return f.apply(this, arguments);
};
};
Kotlin.isTypeOf = function(type) {
    return function (object) {
        return typeof object === type;
    };
};
Kotlin.isInstanceOf = function (klass) {
    return function (object) {
        return Kotlin.isType(object, klass);
    };
};
Kotlin.orNull = function (fn) {
    return function (object) {
        return object == null || fn(object);
    };
};
Kotlin.andPredicate = function (a, b) {
    return function (object) {
        return a(object) && b(object);
    };
};
Kotlin.kotlinModuleMetadata = function (abiVersion, moduleName, data) {}
Kotlin.suspendCall = function(value) {
    return value;
};
Kotlin.coroutineResult = function(qualifier) {
    throwMarkerError();
};
Kotlin.coroutineController = function(qualifier) {
    throwMarkerError();
};
Kotlin.coroutineReceiver = function(qualifier) {
    throwMarkerError();
};
Kotlin.setCoroutineResult = function(value, qualifier) {
    throwMarkerError();
};
Kotlin.getReifiedTypeParameterKType = function(typeParameter) {
    throwMarkerError();
};
function throwMarkerError() {
    throw new Error(
        "This marker function should never be called. " +
        "Looks like compiler did not eliminate it properly. " +
        "Please, report an issue if you caught this exception.");
};
Kotlin.getFunctionById = function(id, defaultValue) {
    return function() {
        return defaultValue;
    };
};
/* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
Kotlin.compareTo = function (a, b) {
    var typeA = typeof a;
    if (typeA === "number") {
        if (typeof b === "number") {
            return Kotlin.doubleCompareTo(a, b);
        }
        return Kotlin.primitiveCompareTo(a, b);
    }
    if (typeA === "string" || typeA === "boolean") {
        return Kotlin.primitiveCompareTo(a, b);
    }
    return
a.compareTo_11rb$(b);
};
Kotlin.primitiveCompareTo = function (a, b) {
    return a < b ? -1 : a > b ? 1 : 0;
};
Kotlin.doubleCompareTo = function (a, b) {
    if (a < b) return -1;
    if (a > b) return 1;
    if (a === b) {
        if (a !== 0) return 0;
        var ia = 1 / a;
        return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);
    }
    return a !== a ? (b !== b ? 0 : 1) : -1;
};
Kotlin.charInc = function (value) {
    return Kotlin.toChar(value+1);
};
Kotlin.charDec = function (value) {
    return Kotlin.toChar(value-1);
};
Kotlin.imul = Math.imul || imul;
Kotlin.imulEmulated = imul;
function imul(a, b) {
    return ((a & 0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;
};
function() {
    var buf = new ArrayBuffer(8);
    var bufFloat64 = new Float64Array(buf);
    var bufFloat32 = new Float32Array(buf);
    var bufInt32 = new Int32Array(buf);
    var lowIndex = 0;
    var highIndex = 1;
    bufFloat64[0] = -1; // bff00000_00000000
    if (bufInt32[lowIndex] !== 0) {
        lowIndex = 1;
        highIndex = 0;
    }
};
Kotlin.doubleToBits = function(value) {
    return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);
};
Kotlin.doubleToRawBits = function(value) {
    bufFloat64[0] = value;
    return Kotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);
};
Kotlin.doubleFromBits = function(value) {
    bufInt32[lowIndex] = value.low_;
    bufInt32[highIndex] = value.high_;
    return bufFloat64[0];
};
Kotlin.floatToBits = function(value) {
    return Kotlin.floatToRawBits(isNaN(value) ? NaN : value);
};
Kotlin.floatToRawBits = function(value) {
    bufFloat32[0] = value;
    return bufInt32[0];
};
Kotlin.floatFromBits = function(value) {
    bufInt32[0] = value;
    return bufFloat32[0];
};
// returns zero value for number with positive sign bit and non-zero value for number with negative sign bit.
Kotlin.doubleSignBit = function(value) {
    bufFloat64[0] = value;
    return

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bufInt32[highIndex] & 0x80000000;\n  };\n\n Kotlin.numberHashCode = function(obj) {\n    if ((obj | 0) ===
obj) {\n      return obj | 0;\n    } else {\n      bufFloat64[0] = obj;\n      return (bufInt32[highIndex]
* 31 | 0) + bufInt32[lowIndex] | 0;\n    };\n  });\n\nKotlin.ensureNotNull = function(x) {\n  return x != null
? x : Kotlin.throwNPE();\n};\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\nif (typeof String.prototype.startsWith === "undefined") {\n
Object.defineProperty(String.prototype, "startsWith", {\n  value: function (searchString, position) {\n
position = position || 0;\n    return this.lastIndexOf(searchString, position) === position;\n  };\n});\n\nif
(typeof String.prototype.endsWith === "undefined") {\n  Object.defineProperty(String.prototype, "endsWith",
{\n  value: function (searchString, position) {\n    var subjectString = this.toString();\n    if (position
=== undefined || position > subjectString.length) {\n      position = subjectString.length;\n    }\n
position -= searchString.length;\n    var lastIndex = subjectString.indexOf(searchString, position);\n
return lastIndex !== -1 && lastIndex === position;\n  };\n});\n\n// ES6 Math polyfills\n\nif (typeof Math.sign
=== "undefined") {\n  Math.sign = function(x) {\n    x = +x; // convert to a number\n    if (x === 0 ||
isNaN(x)) {\n      return Number(x);\n    };\n    return x > 0 ? 1 : -1;\n  };\n}\n\nif (typeof Math.trunc ===
"undefined") {\n  Math.trunc = function(x) {\n    if (isNaN(x)) {\n      return NaN;\n    };\n    if (x > 0)
{\n      return Math.floor(x);\n    };\n    return Math.ceil(x);\n  };\n}\n\n(function() {\n  var epsilon =
2.220446049250313E-16;\n  var taylor_2_bound = Math.sqrt(epsilon);\n  var taylor_n_bound =
Math.sqrt(taylor_2_bound);\n  var upper_taylor_2_bound = 1/taylor_2_bound;\n  var upper_taylor_n_bound =
1/taylor_n_bound;\n\n  if (typeof Math.sinh === "undefined") {\n    Math.sinh = function(x) {\n      if
(Math.abs(x) < taylor_n_bound) {\n        var result = x;\n        if (Math.abs(x) > taylor_2_bound) {\n
result += (x * x * x) / 6;\n        }\n        return result;\n      } else {\n        var y =
Math.exp(x);\n        var y1 = 1 / y;\n        if (!isFinite(y)) return Math.exp(x - Math.LN2);\n        if
(!isFinite(y1)) return -Math.exp(-x - Math.LN2);\n        return (y - y1) / 2;\n      };\n    };\n\n    if
(typeof Math.cosh === "undefined") {\n    Math.cosh = function(x) {\n      var y = Math.exp(x);\n      var
y1 = 1 / y;\n      if (!isFinite(y) || !isFinite(y1)) return Math.exp(Math.abs(x) - Math.LN2);\n      return (y +
y1) / 2;\n    };\n  }\n\n  if (typeof Math.tanh === "undefined") {\n    Math.tanh = function(x) {\n      if
(Math.abs(x) < taylor_n_bound) {\n        var result = x;\n        if (Math.abs(x) > taylor_2_bound) {\n
result -= (x * x * x) / 3;\n        }\n        return result;\n      };\n    } else {\n      var a =
Math.exp(+x), b = Math.exp(-x);\n      return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);\n
    };\n  }\n\n  // Inverse hyperbolic function implementations derived from boost special math functions,\n
// Copyright Eric Ford & Hubert Holin 2001.\n\n  if (typeof Math.asinh === "undefined") {\n    var asinh =
function(x) {\n      if (x >= +taylor_n_bound)\n        {\n          if (x > upper_taylor_n_bound)\n            {\n              // approximation by laurent series in
1/x at 0+ order from -1 to 0\n              return Math.log(x) + Math.LN2;\n            };\n          else\n            {\n              // approximation by laurent series in 1/x at 0+ order from -1 to 1\n              return
Math.log(x * 2 + (1 / (x * 2)));\n            };\n          };\n      } else\n        {\n          return
Math.log(x + Math.sqrt(x * x + 1));\n        };\n      } else if (x <= -taylor_n_bound)\n        {\n          return
-asinh(-x);\n        };\n      } else\n        {\n          // approximation by taylor series in x at 0 up to
order 2\n          var result = x;\n          if (Math.abs(x) >= taylor_2_bound)\n            {\n              var x3 =
x * x * x;\n              // approximation by taylor series in x at 0 up to order 4\n              result -= x3 / 6;\n
            };\n          return result;\n        };\n      };\n    };\n\n    Math.asinh = asinh;\n  }\n\n  if (typeof Math.acosh ===
"undefined") {\n    Math.acosh = function(x) {\n      if (x < 1)\n        {\n          return NaN;\n        };\n      }
else if (x - 1 >= taylor_n_bound)\n        {\n          if (x > upper_taylor_2_bound)\n            {\n              // approximation by laurent series in 1/x at 0+ order from -1 to 0\n              return Math.log(x) + Math.LN2;\n
            };\n          } else\n            {\n              return Math.log(x + Math.sqrt(x * x - 1));\n            };\n
        };\n      } else\n        {\n          var y = Math.sqrt(x - 1);\n          // approximation by taylor series in y at 0
up to order 2\n          var result = y;\n          if (y >= taylor_2_bound)\n            {\n              var y3 = y *

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y * y;\n          // approximation by taylor series in y at 0 up to order 4\n          result -= y3 / 12;\n}\n\n    return Math.sqrt(2) * result;\n    }\n    }\n    if (typeof Math.atanh === \"undefined\")\n{\n    Math.atanh = function(x) {\n        if (Math.abs(x) < taylor_n_bound) {\n            var result = x;\n            if (Math.abs(x) > taylor_2_bound) {\n                result += (x * x * x) / 3;\n            }\n            return result;\n        }\n        return Math.log((1 + x) / (1 - x)) / 2;\n    };}\n    if (typeof Math.log1p === \"undefined\") {\n        Math.log1p = function(x) {\n            if (Math.abs(x) < taylor_n_bound) {\n                var x2 = x * x;\n                var x3 = x2 * x;\n                var x4 = x3 * x;\n                // approximation by taylor series in x at 0 up to order 4\n                return (-x4 / 4 + x3 / 3 - x2 / 2 + x);\n            }\n            return Math.log(x + 1);\n        };}\n    if (typeof\nMath.expm1 === \"undefined\") {\n        Math.expm1 = function(x) {\n            if (Math.abs(x) < taylor_n_bound)\n{\n            var x2 = x * x;\n            var x3 = x2 * x;\n            var x4 = x3 * x;\n            // approximation by\n            taylor series in x at 0 up to order 4\n            return (x4 / 24 + x3 / 6 + x2 / 2 + x);\n        }\n        return\nMath.exp(x) - 1;\n    };}\n    if (typeof Math.hypot === \"undefined\") {\n        Math.hypot = function() {\n            var y = 0;\n            var length = arguments.length;\n            for (var i = 0; i < length; i++) {\n                if (arguments[i]\n                === Infinity || arguments[i] === -Infinity) {\n                    return Infinity;\n                }\n                y += arguments[i] * arguments[i];\n            }\n            return Math.sqrt(y);\n        };}\n    if (typeof Math.log10 === \"undefined\") {\n        Math.log10 = function(x) {\n            return Math.log(x) * Math.LOG10E;\n        };}\n    if (typeof Math.log2 ===\n    \"undefined\") {\n        Math.log2 = function(x) {\n            return Math.log(x) * Math.LOG2E;\n        };}\n    if (typeof\nMath.clz32 === \"undefined\") {\n        Math.clz32 = (function(log, LN2) {\n            return function(x) {\n                var\n                asUInt = x >>> 0;\n                if (asUInt === 0) {\n                    return 32;\n                }\n                return 31 - (log(asUInt) /\n                LN2 | 0) | 0; // the \"| 0\" acts like math.floor\n            };}\n        })(Math.log, Math.LN2);\n    }\n    // For HtmlUnit and\nPhantomJs\n    if (typeof ArrayBuffer.isView === \"undefined\") {\n        ArrayBuffer.isView = function(a) {\n            return a != null && a.__proto__ != null && a.__proto__.__proto__ === Int8Array.prototype.__proto__;\n        };}\n    if (typeof Array.prototype.fill === \"undefined\") {\n        // Polyfill from https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/fill#Polyfill\n        Object.defineProperty(Array.prototype, 'fill', {\n            value: function (value) {\n                // Steps 1-2.\n                if (this == null) {\n                    throw new\n                    TypeError('this is null or not defined');\n                }\n                var O = Object(this);\n                // Steps 3-5.\n                var len = O.length >>> 0;\n                // Steps 6-7.\n                var start = arguments[1];\n                var relativeStart = start >> 0;\n                // Step 8.\n                var k = relativeStart < 0 ?\n                Math.max(len + relativeStart, 0) :\n                Math.min(relativeStart, len);\n                // Steps 9-10.\n                var end = arguments[2];\n                var\n                relativeEnd = end === undefined ?\n                len : end >> 0;\n                // Step 11.\n                var finalValue\n                = relativeEnd < 0 ?\n                Math.max(len + relativeEnd, 0) :\n                Math.min(relativeEnd,\n                len);\n                // Step 12.\n                while (k < finalValue) {\n                    O[k] = value;\n                    k++;\n                }\n                // Step 13.\n                return O;\n            };}\n    });}\n    (function() {\n        function normalizeOffset(offset, length)\n        {\n            if (offset < 0) return Math.max(0, offset + length);\n            return Math.min(offset, length);\n        }\n        function\n        typedArraySlice(begin, end) {\n            if (typeof end === \"undefined\") {\n                end = this.length;\n            }\n            begin = normalizeOffset(begin || 0, this.length);\n            end = Math.max(begin, normalizeOffset(end, this.length));\n            return new this.constructor(this.subarray(begin, end));\n        }\n        var arrays = [Int8Array, Int16Array,\n        Uint16Array, Int32Array, Float32Array, Float64Array];\n        for (var i = 0; i < arrays.length; ++i) {\n            var\n            TypedArray = arrays[i];\n            if (typeof TypedArray.prototype.fill === \"undefined\") {\n                Object.defineProperty(TypedArray.prototype, 'fill', {\n                    value: Array.prototype.fill\n                });\n            }\n            if (typeof TypedArray.prototype.slice === \"undefined\") {\n                Object.defineProperty(TypedArray.prototype,\n                'slice', {\n                    value: typedArraySlice\n                });\n            }\n        }\n    }\n    }\n    // Patch apply to work with TypedArrays\n    if needed.\n    try {\n        (function() {}).apply(null, new Int32Array(0))\n    } catch (e) {\n        var apply =\n        Function.prototype.apply;\n        Object.defineProperty(Function.prototype, 'apply', {\n            value: function(self,\n            array) {\n                return apply.call(this, self, [].slice.call(array));\n            }\n        });\n    }\n    // Patch map to\n    work with TypedArrays if needed.\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof TypedArray.prototype.map === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype,\n            'map', {\n                value: function(callback, self) {\n                    return [].slice.call(this).map(callback, self);\n                }\n            });\n        }\n    }\n}

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    });\n    }\n    }\n\n    // Patch sort to work with TypedArrays if needed.\n    // TODO: consider to
remove following function and replace it with `Kotlin.doubleCompareTo` (see misc.js)\n    var
totalOrderComparator = function (a, b) {\n        if (a < b) return -1;\n        if (a > b) return 1;\n\n        if (a === b) {\n            if (a !== 0) return 0;\n\n            var ia = 1 / a;\n            return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n        }\n\n        return a !== a ? (b !== b ? 0 : 1) : -1\n    };\n\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray =
arrays[i];\n        if (typeof TypedArray.prototype.sort === "undefined") {\n
Object.defineProperty(TypedArray.prototype, 'sort', {\n            value: function(compareFunction) {\n
return Array.prototype.sort.call(this, compareFunction || totalOrderComparator);\n            }\n        });\n    }\n\n    }()\n};\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\nKotlin.Kind = {\n    CLASS: "class",\n    INTERFACE: "interface",\n    OBJECT:
"object"\n};\n\nKotlin.callGetter = function (thisObject, klass, propertyName) {\n    var propertyDescriptor =
Object.getOwnPropertyDescriptor(klass, propertyName);\n    if (propertyDescriptor != null &&
propertyDescriptor.get != null) {\n        return propertyDescriptor.get.call(thisObject);\n    }\n\n    propertyDescriptor =
Object.getOwnPropertyDescriptor(thisObject, propertyName);\n    if (propertyDescriptor != null && "value" in
propertyDescriptor) {\n        return thisObject[propertyName];\n    }\n\n    return Kotlin.callGetter(thisObject,
Object.getPrototypeOf(klass), propertyName);\n};\n\nKotlin.callSetter = function (thisObject, klass, propertyName,
value) {\n    var propertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n    if
(propertyDescriptor != null && propertyDescriptor.set != null) {\n        propertyDescriptor.set.call(thisObject,
value);\n        return;\n    }\n\n    propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject,
propertyName);\n    if (propertyDescriptor != null && "value" in propertyDescriptor) {\n
thisObject[propertyName] = value;\n        return\n    }\n\n    Kotlin.callSetter(thisObject,
Object.getPrototypeOf(klass), propertyName, value);\n};\n\nfunction isInheritanceFromInterface(ctor, iface) {\n    if
(ctor === iface) return true;\n\n    var metadata = ctor.$metadata$;\n    if (metadata != null) {\n        var interfaces =
metadata.interfaces;\n        for (var i = 0; i < interfaces.length; i++) {\n            if
(isInheritanceFromInterface(interfaces[i], iface)) {\n                return true;\n            }\n        }\n    }\n\n    var
superPrototype = ctor.prototype != null ? Object.getPrototypeOf(ctor.prototype) : null;\n    var superConstructor =
superPrototype != null ? superPrototype.constructor : null;\n    return superConstructor != null &&
isInheritanceFromInterface(superConstructor, iface);\n}\n\n/**\n * @param {*} object\n * @param
{Function|Object} klass\n * @returns {Boolean}\n */\nKotlin.isType = function (object, klass) {\n    if (klass ===
Object) {\n        switch (typeof object) {\n            case "string":\n            case "number":\n            case
"boolean":\n            case "function":\n                return true;\n            default:\n                return object instanceof
Object;\n        }\n    }\n\n    if (object == null || klass == null || (typeof object !== 'object' && typeof object !==
'function')) {\n        return false;\n    }\n\n    if (typeof klass === "function" && object instanceof klass) {\n
return true;\n    }\n\n    var proto = Object.getPrototypeOf(klass);\n    var constructor = proto != null ?
proto.constructor : null;\n    if (constructor != null && "$metadata$" in constructor) {\n        var metadata =
constructor.$metadata$;\n        if (metadata.kind === Kotlin.Kind.OBJECT) {\n            return object === klass;\n
        }\n    }\n\n    var classMetadata = klass.$metadata$;\n\n    // In WebKit (JavaScriptCore) for some interfaces from
DOM typeof returns "object", nevertheless they can be used in RHS of instanceof\n    if (classMetadata == null)\n    {\n        return object instanceof klass;\n    }\n\n    if (classMetadata.kind === Kotlin.Kind.INTERFACE &&
object.constructor != null) {\n        return isInheritanceFromInterface(object.constructor, klass);\n    }\n\n    return
false;\n};\n\nKotlin.isNumber = function (a) {\n    return typeof a == "number" || a instanceof
Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n    return value instanceof
Kotlin.BoxedChar;\n};\n\nKotlin.isComparable = function (value) {\n    var type = typeof value;\n\n    return type
=== "string" ||\n        type === "boolean" ||\n        Kotlin.isNumber(value) ||\n        Kotlin.isType(value,
Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n    return typeof value === "string"
|| Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};\n"/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be

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found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the
module\n\n@PublishedApi\nnexternal internal fun <T> Array(size: Int): Array<T>\n\n@JsName("\nnewArray\n")\nfun
<T> newArray(size: Int, initialValue: T) = fillArrayVal(Array<T>(size),
initialValue)\n\n@JsName("\nnewArrayF\n")\ninline fun <T> arrayWithFun(size: Int, init: (Int) -> T) =
fillArrayFun(Array<T>(size), init)\n\n@JsName("\nfillArray\n")\ninline fun <T> fillArrayFun(array: Array<T>, init:
(Int) -> T): Array<T> {\n for (i in 0..array.size - 1) {\n array[i] = init(i)\n }\n return
array\n}\n\n@JsName("\nbooleanArray\n")\nfun booleanArray(size: Int, init: dynamic): Array<Boolean> {\n val
result: dynamic = Array<Boolean>(size)\n result.`$type$` = "\nBooleanArray\n"\n return when (init) {\n null,
true -> fillArrayVal(result, false)\n false -> result\n else -> fillArrayFun<Boolean>(result, init)\n
}\n}\n\n@JsName("\nbooleanArrayF\n")\ninline fun booleanArrayWithFun(size: Int, init: (Int) -> Boolean):
Array<Boolean> = fillArrayFun(booleanArray(size, false),
init)\n\n@JsName("\ncharArray\n")\n@Suppress("\nUNUSED_PARAMETER\n")\nfun charArray(size: Int, init:
dynamic): Array<Char> {\n val result = js("\nnew Uint16Array(size)\n")\n result.`$type$` = "\nCharArray\n"\n
return when (init) {\n null, true, false -> result // For consistency\n else -> fillArrayFun<Char>(result,
init)\n }\n}\n\n@JsName("\ncharArrayF\n")\ninline fun charArrayWithFun(size: Int, init: (Int) -> Char):
Array<Char> {\n val array = charArray(size, null)\n for (i in 0..array.size - 1) {\n
@Suppress("\nUNUSED_VARIABLE\n") // used in js block\n val value = init(i)\n js("\narray[i] = value;\n")\n
}\n return array\n}\n\n@JsName("\nuntypedCharArrayF\n")\ninline fun untypedCharArrayWithFun(size: Int, init:
(Int) -> Char): Array<Char> {\n val array = Array<Char>(size)\n for (i in 0..array.size - 1) {\n
@Suppress("\nUNUSED_VARIABLE\n") // used in js block\n val value = init(i)\n js("\narray[i] = value;\n")\n
}\n return array\n}\n\n@JsName("\nlongArray\n")\nfun longArray(size: Int, init: dynamic): Array<Long> {\n val
result: dynamic = Array<Long>(size)\n result.`$type$` = "\nLongArray\n"\n return when (init) {\n null, true ->
fillArrayVal(result, 0L)\n false -> result\n else -> fillArrayFun<Long>(result, init)\n
}\n}\n\n@JsName("\nlongArrayF\n")\ninline fun longArrayWithFun(size: Int, init: (Int) -> Long): Array<Long> =
fillArrayFun(longArray(size, false), init)\n\nprivate fun <T> fillArrayVal(array: Array<T>, initialValue: T): Array<T>
{\n for (i in 0..array.size - 1) {\n array[i] = initialValue\n }\n return array\n}"/\n\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\npublic class
Enum<T> : Enum<T>> : Comparable<Enum<T>> {\n @JsName("\nname\n") private var _name: String = ""\n
@JsName("\nordinal\n") private var _ordinal: Int = 0\n\n val name: String\n get() = _name\n\n val ordinal:
Int\n get() = _ordinal\n\n override fun compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)\n\n
override fun equals(other: Any?) = this === other\n\n override fun hashCode(): Int =
js("\nKotlin.identityHashCode\n")(this)\n\n override fun toString() = name\n\n companion object\n}"/\n\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js.internal\n\n@JsName("\nDoubleCompanionObject\n")\ninternal object DoubleCompanionObject {\n
@JsName("\nMIN_VALUE\n")\n const val MIN_VALUE: Double = 4.9E-324\n\n
@JsName("\nMAX_VALUE\n")\n const val MAX_VALUE: Double = 1.7976931348623157E308\n\n
@JsName("\nPOSITIVE_INFINITY\n")\n @Suppress("\nDIVISION_BY_ZERO\n")\n const val
POSITIVE_INFINITY: Double = 1.0 / 0.0\n\n @JsName("\nNEGATIVE_INFINITY\n")\n
@Suppress("\nDIVISION_BY_ZERO\n")\n const val NEGATIVE_INFINITY: Double = -1.0 / 0.0\n\n
@JsName("\nNaN\n")\n @Suppress("\nDIVISION_BY_ZERO\n")\n const val NaN: Double = -(0.0 / 0.0)\n\n
@JsName("\nSIZE_BYTES\n")\n const val SIZE_BYTES = 8\n\n @JsName("\nSIZE_BITS\n")\n const val
SIZE_BITS = 64\n}\n\n@JsName("\nFloatCompanionObject\n")\ninternal object FloatCompanionObject {\n
@JsName("\nMIN_VALUE\n")\n const val MIN_VALUE: Float = 1.4E-45F\n\n @JsName("\nMAX_VALUE\n")\n
const val MAX_VALUE: Float = 3.4028235E38F\n\n @JsName("\nPOSITIVE_INFINITY\n")\n
@Suppress("\nDIVISION_BY_ZERO\n")\n const val POSITIVE_INFINITY: Float = 1.0F / 0.0F\n\n
@JsName("\nNEGATIVE_INFINITY\n")\n @Suppress("\nDIVISION_BY_ZERO\n")\n const val

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NEGATIVE_INFINITY: Float = -1.0F / 0.0F\n\n @JsName("NaN")\n
@Suppress("DIVISION_BY_ZERO")\n const val NaN: Float = -(0.0F / 0.0F)\n\n
@JsName("SIZE_BYTES")\n const val SIZE_BYTES = 4\n\n @JsName("SIZE_BITS")\n const val
SIZE_BITS = 32\n\n\n@JsName("IntCompanionObject")\ninternal object IntCompanionObject {\n
@JsName("MIN_VALUE")\n val MIN_VALUE: Int = -2147483647 - 1\n\n @JsName("MAX_VALUE")\n
val MAX_VALUE: Int = 2147483647\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 4\n\n
@JsName("SIZE_BITS")\n const val SIZE_BITS = 32\n\n\n@JsName("LongCompanionObject")\ninternal
object LongCompanionObject {\n @JsName("MIN_VALUE")\n val MIN_VALUE: Long =
js("Kotlin.Long.MIN_VALUE")\n\n @JsName("MAX_VALUE")\n val MAX_VALUE: Long =
js("Kotlin.Long.MAX_VALUE")\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 8\n\n
@JsName("SIZE_BITS")\n const val SIZE_BITS = 64\n\n\n@JsName("ShortCompanionObject")\ninternal
object ShortCompanionObject {\n @JsName("MIN_VALUE")\n val MIN_VALUE: Short = -32768\n\n
@JsName("MAX_VALUE")\n val MAX_VALUE: Short = 32767\n\n @JsName("SIZE_BYTES")\n const
val SIZE_BYTES = 2\n\n @JsName("SIZE_BITS")\n const val SIZE_BITS =
16\n\n\n@JsName("ByteCompanionObject")\ninternal object ByteCompanionObject {\n
@JsName("MIN_VALUE")\n val MIN_VALUE: Byte = -128\n\n @JsName("MAX_VALUE")\n val
MAX_VALUE: Byte = 127\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 1\n\n
@JsName("SIZE_BITS")\n const val SIZE_BITS = 8\n\n\n@JsName("CharCompanionObject")\ninternal
object CharCompanionObject {\n @JsName("MIN_VALUE")\n public const val MIN_VALUE: Char =
"\u0000"\n\n @JsName("MAX_VALUE")\n public const val MAX_VALUE: Char = "\uFFFF"\n\n
@JsName("MIN_HIGH_SURROGATE")\n public const val MIN_HIGH_SURROGATE: Char = "\uD800"\n\n
@JsName("MAX_HIGH_SURROGATE")\n public const val MAX_HIGH_SURROGATE: Char =
"\uDBFF"\n\n @JsName("MIN_LOW_SURROGATE")\n public const val MIN_LOW_SURROGATE: Char =
"\uDC00"\n\n @JsName("MAX_LOW_SURROGATE")\n public const val MAX_LOW_SURROGATE: Char =
"\uDFFF"\n\n @JsName("MIN_SURROGATE")\n public const val MIN_SURROGATE: Char =
MIN_HIGH_SURROGATE\n\n @JsName("MAX_SURROGATE")\n public const val MAX_SURROGATE:
Char = MAX_LOW_SURROGATE\n\n @JsName("SIZE_BYTES")\n const val SIZE_BYTES = 2\n\n
@JsName("SIZE_BITS")\n const val SIZE_BITS = 16\n\n\ninternal object StringCompanionObject
{\n\n\ninternal object BooleanCompanionObject {\n\n\n"}\n\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the
size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior
is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component1(): T
{\n return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1,
throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component1(): Byte {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component1(): Short {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component1(): Int {\n return
get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */

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

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

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

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

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

```



```

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

```

```

empty.}\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the
array is empty.\n */\npublic fun ShortArray.first(): Short {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.}\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n */\npublic fun IntArray.first(): Int {\n if (isEmpty())\n
throw NoSuchElementException("Array is empty.}\n return this[0]\n}\n\n/**\n * Returns first element.\n *
@throws [NoSuchElementException] if the array is empty.\n */\npublic fun LongArray.first(): Long {\n if
(isEmpty())\n throw NoSuchElementException("Array is empty.}\n return this[0]\n}\n\n/**\n * Returns first
element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun FloatArray.first(): Float
{\n if (isEmpty())\n throw NoSuchElementException("Array is empty.}\n return this[0]\n}\n\n/**\n *
Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun
DoubleArray.first(): Double {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.}\n
return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun BooleanArray.first(): Boolean {\n if (isEmpty())\n throw NoSuchElementException("Array is
empty.}\n return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the
array is empty.\n */\npublic fun CharArray.first(): Char {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.}\n return this[0]\n}\n\n/**\n * Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun
<T> Array<out T>.first(predicate: (T) -> Boolean): T {\n for (element in this) if (predicate(element)) return
element\n throw NoSuchElementException("Array contains no element matching the predicate.}\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n */\npublic inline fun ByteArray.first(predicate: (Byte) -> Boolean): Byte {\n for (element in
this) if (predicate(element)) return element\n throw NoSuchElementException("Array contains no element
matching the predicate.}\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.first(predicate: (Short) -
> Boolean): Short {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.}\n}\n\n/**\n * Returns the first
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\npublic inline fun IntArray.first(predicate: (Int) -> Boolean): Int {\n for (element in this) if (predicate(element))
return element\n throw NoSuchElementException("Array contains no element matching the
predicate.}\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun LongArray.first(predicate: (Long) -
> Boolean): Long {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.}\n}\n\n/**\n * Returns the first
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\npublic inline fun FloatArray.first(predicate: (Float) -> Boolean): Float {\n for (element in this) if
(predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the
predicate.}\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.first(predicate:
(Double) -> Boolean): Double {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.}\n}\n\n/**\n * Returns the first
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\npublic inline fun BooleanArray.first(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if
(predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the
predicate.}\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.first(predicate: (Char) ->
Boolean): Char {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.}\n}\n\n/**\n * Returns the first
non-null value produced by [transform] function being applied to elements of this array in iteration order.\n * or

```

throws [NoSuchElementException] if no non-null value was produced.

```

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

```

```

*  

@kotlin.internal.InlineOnly  

public inline fun <T> Array<out T>.getOrNull(index: Int, default: T): T {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun ByteArray.getOrNull(index: Int, default: Byte): Byte {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun ShortArray.getOrNull(index: Int, default: Short): Short {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun IntArray.getOrNull(index: Int, default: Int): Int {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun LongArray.getOrNull(index: Int, default: Long): Long {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun FloatArray.getOrNull(index: Int, default: Float): Float {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun DoubleArray.getOrNull(index: Int, default: Double): Double {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun BooleanArray.getOrNull(index: Int, default: Boolean): Boolean {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or the result of calling the [default] function if the [index] is out of bounds of this array.
*  

@kotlin.internal.InlineOnly  

public inline fun CharArray.getOrNull(index: Int, default: Char): Char {  

    return if (index >= 0 && index <= lastIndex) get(index) else default  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun <T> Array<out T>.getOrNull(index: Int): T? {  

    return if (index >= 0 && index <= lastIndex) get(index) else null  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun ByteArray.getOrNull(index: Int): Byte? {  

    return if (index >= 0 && index <= lastIndex) get(index) else null  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun ShortArray.getOrNull(index: Int): Short? {  

    return if (index >= 0 && index <= lastIndex) get(index) else null  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun IntArray.getOrNull(index: Int): Int? {  

    return if (index >= 0 && index <= lastIndex) get(index) else null  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun LongArray.getOrNull(index: Int): Long? {  

    return if (index >= 0 && index <= lastIndex) get(index) else null  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun FloatArray.getOrNull(index: Int): Float? {  

    return if (index >= 0 && index <= lastIndex) get(index) else null  

}
* Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
* @sample samples.collections.Collections.Elements.getOrNull
*  

public fun DoubleArray.getOrNull(index: Int): Double?

```

```

{\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun BooleanArray.getOrNull(index: Int): Boolean?
{\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.getOrNull\n */\npublic fun CharArray.getOrNull(index: Int): Char? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -
1 if the array does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out
T>.indexOf(element: T): Int {\n  if (element == null) {\n    for (index in indices) {\n      if (this[index] ==
null) {\n        return index\n      }\n    }\n  } else {\n    for (index in indices) {\n      if (element ==
this[index]) {\n        return index\n      }\n    }\n  }\n  return -1\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n */\npublic fun ByteArray.indexOf(element: Byte): Int {\n
for (index in indices) {\n  if (element == this[index]) {\n    return index\n  }\n}\n  return -
1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
ShortArray.indexOf(element: Short): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n
return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not
contain element.\n */\npublic fun IntArray.indexOf(element: Int): Int {\n  for (index in indices) {\n    if (element
== this[index]) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns first index of [element], or -
1 if the array does not contain element.\n */\npublic fun LongArray.indexOf(element: Long): Int {\n  for (index in
indices) {\n    if (element == this[index]) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n */\n@Deprecated("\nThe function has unclear
behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }'
instead to continue using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a
list.", ReplaceWith("\nindexOfFirst { it == element }\n"))\n@DeprecatedSinceKotlin(warningSince = "\n1.4\n",
errorSince = "\n1.6\n")\npublic fun FloatArray.indexOf(element: Float): Int {\n  for (index in indices) {\n    if
(element == this[index]) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n */\n@Deprecated("\nThe function has unclear behavior when
searching for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }' instead to continue
using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a list.\n",
ReplaceWith("\nindexOfFirst { it == element }\n"))\n@DeprecatedSinceKotlin(warningSince = "\n1.4\n", errorSince =
"\n1.6\n")\npublic fun DoubleArray.indexOf(element: Double): Int {\n  for (index in indices) {\n    if (element ==
this[index]) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns first index of [element], or -1 if
the array does not contain element.\n */\npublic fun BooleanArray.indexOf(element: Boolean): Int {\n  for (index
in indices) {\n    if (element == this[index]) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n *
Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
CharArray.indexOf(element: Char): Int {\n  for (index in indices) {\n    if (element == this[index]) {\n
return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns index of the first element matching the given
[predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T> Array<out
T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n  for (index in indices) {\n    if (predicate(this[index])) {\n
return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns index of the first element matching the given
[predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n    return index\n  }\n}\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfFirst(predicate: (Int) -> Boolean): Int {\n  for (index in indices) {\n    if (predicate(this[index]))

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

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throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun ShortArray.last(): Short {\n    if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun IntArray.last(): Int {\n    if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun LongArray.last(): Long {\n    if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun FloatArray.last(): Float {\n    if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun DoubleArray.last(): Double {\n    if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun BooleanArray.last(): Boolean {\n    if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element.\n * \n * @throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic fun CharArray.last(): Char {\n    if (isEmpty())\n    throw
NoSuchElementException("Array is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n *
@sample samples.collections.Collections.Elements.last\n */\npublic inline fun <T> Array<out
T>.last(predicate: (T) -> Boolean): T {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n
        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ByteArray.last(predicate: (Byte) -> Boolean):
Byte {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element))
return
element\n    }\n    throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun ShortArray.last(predicate: (Short) -> Boolean):
Short {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element))
return
element\n    }\n    throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun IntArray.last(predicate: (Int) -> Boolean): Int
{\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element))
return
element\n    }\n    throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n */\npublic inline fun LongArray.last(predicate: (Long) -> Boolean):
Long {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element))
return
element\n    }\n    throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n * @throws
NoSuchElementException if no such element is found.\n * \n * @sample

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

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indices.reversed() {\n    if (element == this[index]) {\n        return index\n    }\n    return -1\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic fun <T> Array<out T>.lastOrNull(): T? {\n    return if
(isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \n\npublic fun ByteArray.lastOrNull(): Byte? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \n\npublic fun ShortArray.lastOrNull(): Short? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n *
\n * @sample samples.collections.Collections.Elements.last\n * \n\npublic fun IntArray.lastOrNull(): Int? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \n\npublic fun LongArray.lastOrNull(): Long? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \n\npublic fun FloatArray.lastOrNull(): Float? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n * \n *
@sample samples.collections.Collections.Elements.last\n * \n\npublic fun DoubleArray.lastOrNull(): Double? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n *
\n * @sample samples.collections.Collections.Elements.last\n * \n\npublic fun BooleanArray.lastOrNull(): Boolean?
{\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is
empty.\n * \n * @sample samples.collections.Collections.Elements.last\n * \n\npublic fun CharArray.lastOrNull():
Char? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun <T> Array<out T>.lastOrNull(predicate: (T) ->
Boolean): T? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun ByteArray.lastOrNull(predicate: (Byte) ->
Boolean): Byte? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun ShortArray.lastOrNull(predicate: (Short) ->
Boolean): Short? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun IntArray.lastOrNull(predicate: (Int) ->
Boolean): Int? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun LongArray.lastOrNull(predicate: (Long) ->
Boolean): Long? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun FloatArray.lastOrNull(predicate: (Float) ->
Boolean): Float? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n * \n\npublic inline fun DoubleArray.lastOrNull(predicate: (Double) ->
Boolean): Double? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if
(predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last element matching the given

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

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

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get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
ShortArray.randomOrNull(random: Random): Short? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntArray.randomOrNull(random: Random): Int? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongArray.randomOrNull(random: Random): Long? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
FloatArray.randomOrNull(random: Random): Float? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
DoubleArray.randomOrNull(random: Random): Double? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
BooleanArray.randomOrNull(random: Random): Boolean? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharArray.randomOrNull(random: Random): Char? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n */\npublic fun <T> Array<out T>.single(): T {\n return when (size) {\n 0 ->
throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun ByteArray.single(): Byte
{\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun
ShortArray.single(): Short {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is
empty.")\n 1 -> this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n
}\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun IntArray.single(): Int {\n return when (size) {\n 0 -> throw
NoSuchElementException("Array is empty.")\n 1 -> this[0]\n else -> throw
IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun LongArray.single(): Long
{\n return when (size) {\n 0 -> throw NoSuchElementException("Array is empty.")\n 1 -> this[0]\n
else -> throw IllegalArgumentException("Array has more than one element.")\n }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun
FloatArray.single(): Float {\n return when (size) {\n 0 -> throw NoSuchElementException("Array is
empty.")\n 1 -> this[0]\n else -> throw IllegalArgumentException("Array has more than one element.")\n
}\n}

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Double? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found)
throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Double\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n */\npublic inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n    var
single: Boolean? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Boolean\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no
or more than one matching element.\n */\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char
{\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Char\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun <T>
Array<out T>.singleOrNull(): T? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or
`null` if the array is empty or has more than one element.\n */\npublic fun ByteArray.singleOrNull(): Byte? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun ShortArray.singleOrNull(): Short? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun IntArray.singleOrNull(): Int? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or
`null` if the array is empty or has more than one element.\n */\npublic fun LongArray.singleOrNull(): Long? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun FloatArray.singleOrNull(): Float? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun DoubleArray.singleOrNull(): Double? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n */\npublic fun BooleanArray.singleOrNull():
Boolean? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is
empty or has more than one element.\n */\npublic fun CharArray.singleOrNull(): Char? {\n    return if (size == 1)
this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not
found or more than one element was found.\n */\npublic inline fun <T> Array<out T>.singleOrNull(predicate: (T) -
> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if
(predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or
`null` if element was not found or more than one element was found.\n */\npublic inline fun
ByteArray.singleOrNull(predicate: (Byte) -> Boolean): Byte? {\n    var single: Byte? = null\n    var found = false\n
for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n
found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n    var single: Short? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single
= element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was
found.\n */\npublic inline fun IntArray.singleOrNull(predicate: (Int) -> Boolean): Int? {\n    var single: Int? = null\n
var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n
single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n *

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Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

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

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

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

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

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Boolean): List<Char> {\n  return filterTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing
only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element
and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T> Array<out
T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n  return filterIndexedTo(ArrayList<T>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic
inline fun ByteArray.filterIndexed(predicate: (index: Int, Byte) -> Boolean): List<Byte> {\n  return
filterIndexedTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun ShortArray.filterIndexed(predicate:
(index: Int, Short) -> Boolean): List<Short> {\n  return filterIndexedTo(ArrayList<Short>(), predicate)\n}\n\n/**\n
* Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes
the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n
* @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun
IntArray.filterIndexed(predicate: (index: Int, Int) -> Boolean): List<Int> {\n  return
filterIndexedTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun LongArray.filterIndexed(predicate:
(index: Int, Long) -> Boolean): List<Long> {\n  return filterIndexedTo(ArrayList<Long>(), predicate)\n}\n\n/**\n
* Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes
the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n
* @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun
FloatArray.filterIndexed(predicate: (index: Int, Float) -> Boolean): List<Float> {\n  return
filterIndexedTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun DoubleArray.filterIndexed(predicate:
(index: Int, Double) -> Boolean): List<Double> {\n  return filterIndexedTo(ArrayList<Double>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic
inline fun BooleanArray.filterIndexed(predicate: (index: Int, Boolean) -> Boolean): List<Boolean> {\n  return
filterIndexedTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching
the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n *
and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun CharArray.filterIndexed(predicate:
(index: Int, Char) -> Boolean): List<Char> {\n  return filterIndexedTo(ArrayList<Char>(), predicate)\n}\n\n/**\n
* Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that
takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the
element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C :
MutableCollection<in T>> Array<out T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C
{\n  forEachIndexed { index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of

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predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterIndexedTo(destination: C, predicate:
(index: Int, Byte) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterIndexedTo(destination: C, predicate: (index:
Int, Int) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Long>> LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterIndexedTo(destination: C, predicate:
(index: Int, Float) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Double>> DoubleArray.filterIndexedTo(destination: C, predicate: (index: Int, Double) -> Boolean): C {\n
forEachIndexed { index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterIndexedTo(destination: C, predicate:
(index: Int, Boolean) -> Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Returns a list containing all elements that are instances of specified type parameter R.\n *
\n * @sample samples.collections.Collections.Filtering.filterIsInstance\n
*\npublic inline fun <reified R>
Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n  return
filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type
parameter R to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterIsInstanceTo\n
*\npublic inline fun <reified R, C :

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

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

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the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterTo(destination: C, predicate: (Char) ->
Boolean): C {\n    for (element in this) if (predicate(element)) destination.add(element)\n    return
destination\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun <T> Array<out T>.slice(indices: IntRange): List<T> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun ByteArray.slice(indices: IntRange): List<Byte> {\n    if
(indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun ShortArray.slice(indices: IntRange): List<Short> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun IntArray.slice(indices: IntRange): List<Int> {\n    if
(indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun LongArray.slice(indices: IntRange): List<Long> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun FloatArray.slice(indices: IntRange): List<Float> {\n    if
(indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun DoubleArray.slice(indices: IntRange): List<Double> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun BooleanArray.slice(indices: IntRange): List<Boolean> {\n
if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun CharArray.slice(indices: IntRange): List<Char> {\n    if (indices.isEmpty()) return listOf()\n    return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun <T> Array<out T>.slice(indices: Iterable<Int>): List<T> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<T>(size)\n    for
(index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun ByteArray.slice(indices: Iterable<Int>): List<Byte> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Byte>(size)\n    for
(index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun ShortArray.slice(indices: Iterable<Int>): List<Short> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Short>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun IntArray.slice(indices: Iterable<Int>): List<Int> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Int>(size)\n    for
(index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at
specified [indices].\n */\npublic fun LongArray.slice(indices: Iterable<Int>): List<Long> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Long>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun FloatArray.slice(indices: Iterable<Int>): List<Float> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Float>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun DoubleArray.slice(indices: Iterable<Int>): List<Double> {\n    val
size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list =
ArrayList<Double>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n
* Returns a list containing elements at specified [indices].\n */\npublic fun BooleanArray.slice(indices: Iterable<Int>):

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

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

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

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

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

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

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[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
DoubleArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex,
size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var reverseIndex =
toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n        this[index] =
this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements of the
array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n *
@param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic fun
BooleanArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var
reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses
elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to
reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin("1.4")\npublic
fun CharArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n    AbstractList.checkRangeIndexes(fromIndex,
toIndex, size)\n    val midPoint = (fromIndex + toIndex) / 2\n    if (fromIndex == midPoint) return\n    var
reverseIndex = toIndex - 1\n    for (index in fromIndex until midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Returns a
list with elements in reversed order.\n */\n\npublic fun <T> Array<out T>.reversed(): List<T> {\n    if (isEmpty())
return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with
elements in reversed order.\n */\n\npublic fun ByteArray.reversed(): List<Byte> {\n    if (isEmpty()) return
emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements
in reversed order.\n */\n\npublic fun ShortArray.reversed(): List<Short> {\n    if (isEmpty()) return emptyList()\n    val
list = toMutableList()\n    list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n
*/\n\npublic fun IntArray.reversed(): List<Int> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n\npublic fun
LongArray.reversed(): List<Long> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n\npublic fun
FloatArray.reversed(): List<Float> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n\npublic fun
DoubleArray.reversed(): List<Double> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n\npublic fun
BooleanArray.reversed(): List<Boolean> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n\npublic fun
CharArray.reversed(): List<Char> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n
list.reverse()\n    return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\n\npublic
fun <T> Array<T>.reversedArray(): Array<T> {\n    if (isEmpty()) return this\n    val result = arrayOfNulls(this,
size)\n    val lastIndex = lastIndexOf\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return
result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\n\npublic fun
ByteArray.reversedArray(): ByteArray {\n    if (isEmpty()) return this\n    val result = ByteArray(size)\n    val
lastIndex = lastIndexOf\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n *
Returns an array with elements of this array in reversed order.\n */\n\npublic fun ShortArray.reversedArray():
ShortArray {\n    if (isEmpty()) return this\n    val result = ShortArray(size)\n    val lastIndex = lastIndexOf\n    for (i
in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n}\n\n/**\n * Returns an array with elements of this

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array in reversed order.\n *^npublic fun IntArray.reversedArray(): IntArray {\n  if (isEmpty()) return this\n  val result = IntArray(size)\n  val lastIndex = lastIndex\n  for (i in 0..lastIndex)\n    result[lastIndex - i] = this[i]\n  return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun\nLongArray.reversedArray(): LongArray {\n  if (isEmpty()) return this\n  val result = LongArray(size)\n  val\n  lastIndex = lastIndex\n  for (i in 0..lastIndex)\n    result[lastIndex - i] = this[i]\n  return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun FloatArray.reversedArray():\nFloatArray {\n  if (isEmpty()) return this\n  val result = FloatArray(size)\n  val lastIndex = lastIndex\n  for (i in\n  0..lastIndex)\n    result[lastIndex - i] = this[i]\n  return result\n}\n\n/**\n * Returns an array with elements of this\n array in reversed order.\n */\npublic fun DoubleArray.reversedArray(): DoubleArray {\n  if (isEmpty()) return\n  this\n  val result = DoubleArray(size)\n  val lastIndex = lastIndex\n  for (i in 0..lastIndex)\n    result[lastIndex -\n  i] = this[i]\n  return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic\nfun BooleanArray.reversedArray(): BooleanArray {\n  if (isEmpty()) return this\n  val result =\n  BooleanArray(size)\n  val lastIndex = lastIndex\n  for (i in 0..lastIndex)\n    result[lastIndex - i] = this[i]\n  return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun\nCharArray.reversedArray(): CharArray {\n  if (isEmpty()) return this\n  val result = CharArray(size)\n  val\n  lastIndex = lastIndex\n  for (i in 0..lastIndex)\n    result[lastIndex - i] = this[i]\n  return result\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun <T>\nArray<T>.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun ShortArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun IntArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun LongArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun FloatArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun DoubleArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin("1.4")\npublic fun BooleanArray.shuffle(): Unit {\n  shuffle(Random)\n}\n\n/**\n * Randomly\n shuffles elements in this array in-place using the specified [random]\n instance as the source of randomness.\n */\n * See:\nhttps://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm\n\n */\n@SinceKotlin("1.4")\npublic fun <T> Array<T>.shuffle(random: Random): Unit {\n  for (i in lastIndex\n  downTo 1) {\n    val j = random.nextInt(i + 1)\n    val copy = this[i]\n    this[i] = this[j]\n    this[j] = copy\n  }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the\n source of randomness.\n */\n * See:\nhttps://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm\n\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.shuffle(random: Random): Unit {\n  for (i in lastIndex downTo\n  1) {\n    val j = random.nextInt(i + 1)\n    val copy = this[i]\n    this[i] = this[j]\n    this[j] = copy\n  }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the\n source of randomness.\n */\n * See:\nhttps://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm\n\n */\n@SinceKotlin("1.4")\npublic fun ShortArray.shuffle(random: Random): Unit {\n  for (i in lastIndex downTo\n  1) {\n    val j = random.nextInt(i + 1)\n    val copy = this[i]\n    this[i] = this[j]\n    this[j] = copy\n  }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the\n source of randomness.\n */\n * See:\nhttps://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm\n\n */\n@SinceKotlin("1.4")\npublic fun IntArray.shuffle(random: Random): Unit {\n  for (i in lastIndex downTo 1)

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{\n    val j = random.nextInt(i + 1)\n    val copy = this[i]\n    this[i] = this[j]\n    this[j] = copy\n
}\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\npublic fun LongArray.shuffle(random: Random): Unit {\n    for (i in lastIndex downTo
1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n
}\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\npublic fun FloatArray.shuffle(random: Random): Unit {\n    for (i in lastIndex downTo
1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n
}\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\npublic fun DoubleArray.shuffle(random: Random): Unit {\n    for (i in lastIndex
downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n
}\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\npublic fun BooleanArray.shuffle(random: Random): Unit {\n    for (i in lastIndex
downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n
}\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the
source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.shuffle(random: Random): Unit {\n    for (i in lastIndex downTo
1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n
}\n}\n\n/**\n * Sorts elements in the array in-place according to natural sort order of the value returned by specified
[selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each
other after sorting.\n * \npublic inline fun <T, R : Comparable<R>> Array<out T>.sortBy(crossinline selector: (T) -
> R?): Unit {\n    if (size > 1) sortWith(compareBy(selector))\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to natural sort order of the value returned by specified
[selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n * \npublic inline fun <T, R : Comparable<R>> Array<out T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n    if (size > 1)
sortWith(compareByDescending(selector))\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n * \npublic inline fun <T : Comparable<T>> Array<out T>.sortDescending(): Unit {\n    if (size > 1)
sortWith(reverseOrder())\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \npublic fun ByteArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n
}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \npublic fun ShortArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n
}\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \npublic fun IntArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n
}\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \npublic fun LongArray.sortDescending():
Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \npublic fun FloatArray.sortDescending(): Unit {\n    if (size >
1) {\n        sort()\n        reverse()\n    }\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \npublic fun DoubleArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n
}\n}\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n

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*\npublic fun CharArray.sortDescending(): Unit {\n  if (size > 1) {\n    sort()\n    reverse()\n  }\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<out T>.sorted(): List<T> {\n  return sortedArray().asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun ByteArray.sorted(): List<Byte> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun ShortArray.sorted(): List<Short> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun IntArray.sorted(): List<Int> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun LongArray.sorted(): List<Long> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun FloatArray.sorted(): List<Float> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun DoubleArray.sorted(): List<Double> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun CharArray.sorted(): List<Char> {\n  return toTypedArray().apply { sort() }.asList()\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<T>.sortedArray(): Array<T> {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun ByteArray.sortedArray(): ByteArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun ShortArray.sortedArray(): ShortArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun IntArray.sortedArray(): IntArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun LongArray.sortedArray(): LongArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun FloatArray.sortedArray(): FloatArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun DoubleArray.sortedArray(): DoubleArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun CharArray.sortedArray(): CharArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sort() }\n}\n\n/>\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<T>.sortedArrayDescending(): Array<T> {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sortWith(reverseOrder()) }\n}\n\n/>\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun ByteArray.sortedArrayDescending(): ByteArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sortDescending() }\n}\n\n/>\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun ShortArray.sortedArrayDescending(): ShortArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sortDescending() }\n}\n\n/>\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun IntArray.sortedArrayDescending(): IntArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sortDescending() }\n}\n\n/>\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedArrayDescending(): LongArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply { sortDescending() }\n}\n\n/>\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun FloatArray.sortedArrayDescending(): FloatArray {\n  if (isEmpty()) return this\n  return this.copyOf().apply {

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

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

to the specified [comparator].  
`public fun ShortArray.sortedWith(comparator: Comparator<in Short>): List<Short> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a list of all elements sorted according to the specified [comparator].  
`public fun IntArray.sortedWith(comparator: Comparator<in Int>): List<Int> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a list of all elements sorted according to the specified [comparator].  
`public fun LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a list of all elements sorted according to the specified [comparator].  
`public fun FloatArray.sortedWith(comparator: Comparator<in Float>): List<Float> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a list of all elements sorted according to the specified [comparator].  
`public fun DoubleArray.sortedWith(comparator: Comparator<in Double>): List<Double> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a list of all elements sorted according to the specified [comparator].  
`public fun BooleanArray.sortedWith(comparator: Comparator<in Boolean>): List<Boolean> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a list of all elements sorted according to the specified [comparator].  
`public fun CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> { return toTypedArray().apply { sortedWith(comparator) }.asList() }`  
Returns a [List] that wraps the original array.  
`expect fun <T> Array<out T>.asList(): List<T>`  
Returns a [List] that wraps the original array.  
`expect fun ByteArray.asList(): List<Byte>`  
Returns a [List] that wraps the original array.  
`expect fun ShortArray.asList(): List<Short>`  
Returns a [List] that wraps the original array.  
`expect fun IntArray.asList(): List<Int>`  
Returns a [List] that wraps the original array.  
`expect fun LongArray.asList(): List<Long>`  
Returns a [List] that wraps the original array.  
`expect fun FloatArray.asList(): List<Float>`  
Returns a [List] that wraps the original array.  
`expect fun DoubleArray.asList(): List<Double>`  
Returns a [List] that wraps the original array.  
`expect fun BooleanArray.asList(): List<Boolean>`  
Returns a [List] that wraps the original array.  
`expect fun CharArray.asList(): List<Char>`  
Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order.  
If two corresponding elements are nested arrays, they are also compared deeply.  
If any of arrays contains itself on any nesting level the behavior is undefined.  
The elements of other types are compared for equality with the [equals][Any.equals] function.  
For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.  
@SinceKotlin("1.1")  
`internal.LowPriorityInOverloadResolution expect infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean`  
Returns `true` if the two specified arrays are *deeply* equal to one another, i.e. contain the same number of the same elements in the same order.  
The specified arrays are also considered deeply equal if both are `null`.  
If two corresponding elements are nested arrays, they are also compared deeply.  
If any of arrays contains itself on any nesting level the behavior is undefined.  
The elements of other types are compared for equality with the [equals][Any.equals] function.  
For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.  
@SinceKotlin("1.4")  
`internal.LowPriorityInOverloadResolution expect fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean`  
Returns a hash code based on the contents of this array as if it is [List].  
Nested arrays are treated as lists too.  
If any of arrays contains itself on any nesting level the behavior is undefined.  
@SinceKotlin("1.1")  
`internal.LowPriorityInOverloadResolution expect fun <T> Array<out T>.contentDeepHashCode(): Int`  
Returns a hash code based on the contents of this array as if it is [List].  
Nested arrays are treated as lists too.  
If any of arrays contains itself on any nesting level the behavior is undefined.  
@SinceKotlin("1.4")  
`internal.LowPriorityInOverloadResolution expect fun <T> Array<out T>?.contentDeepHashCode(): Int`  
Returns a string representation of the contents of this array as if it is a [List].  
Nested arrays are treated as lists too.  
If any of arrays contains itself on any nesting level that reference is rendered as `[...]` to prevent recursion.  
@sample  
samples.collections.Arrays.ContentOperations.contentDeepToString  
@SinceKotlin("1.1")  
`internal.LowPriorityInOverloadResolution expect fun <T> Array<out`

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

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

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[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
ShortArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
IntArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
LongArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
FloatArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
DoubleArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
BooleanArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
CharArray.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun <T> Array<out T>?.contentHashCode(): Int\n\n**\n *
Returns a hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect
fun ByteArray?.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun ShortArray?.contentHashCode(): Int\n\n**\n * Returns a
hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun
IntArray?.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun LongArray?.contentHashCode(): Int\n\n**\n * Returns a
hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun
FloatArray?.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun DoubleArray?.contentHashCode(): Int\n\n**\n * Returns a
hash code based on the contents of this array as if it is [List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun
BooleanArray?.contentHashCode(): Int\n\n**\n * Returns a hash code based on the contents of this array as if it is
[List].\n *\n@SinceKotlin(\n1.4\n)\npublic expect fun CharArray?.contentHashCode(): Int\n\n**\n * Returns a
string representation of the contents of the specified array as if it is [List].\n *\n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to
avoid deprecation warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic
expect fun <T> Array<out T>.contentToString(): String\n\n**\n * Returns a string representation of the contents of
the specified array as if it is [List].\n *\n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *\n@Deprecated(\nUse Kotlin compiler 1.4 to
avoid deprecation warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic
expect fun ByteArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the
specified array as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation
warning.\n)\n@SinceKotlin(\n1.1\n)\n@DeprecatedSinceKotlin(hiddenSince = \n1.4\n)\npublic expect fun
ShortArray.contentToString(): String\n\n**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n *\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@Deprecated(\nUse Kotlin compiler 1.4 to avoid deprecation

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warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun
IntArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun
LongArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun
FloatArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun
DoubleArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun
BooleanArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation
warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun
CharArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin(\"1.4\")\npublic expect fun <T> Array<out T>?.contentToString(): String\n\n/**\n * Returns a
string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun
ByteArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin(\"1.4\")\npublic expect fun ShortArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun
IntArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array
as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin(\"1.4\")\npublic expect fun LongArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun
FloatArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin(\"1.4\")\npublic expect fun DoubleArray?.contentToString(): String\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun
BooleanArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin(\"1.4\")\npublic expect fun CharArray?.contentToString(): String\n\n/**\n * Copies this array or
its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the
[destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param
destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by
default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param

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endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n \* \n \*\n \* @SinceKotlin("1.3")\n \* public expect fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T>\n \* \n \*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n \* \n \*\n \* @SinceKotlin("1.3")\n \* public expect fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray\n \* \n \*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n \* \n \*\n \* @SinceKotlin("1.3")\n \* public expect fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray\n \* \n \*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n \* \n \*\n \* @SinceKotlin("1.3")\n \* public expect fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray\n \* \n \*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n \* \n \*\n \* @SinceKotlin("1.3")\n \* public expect fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):

LongArray\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\npublic expect fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```

*\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```

*\n@SinceKotlin("1.3")\npublic expect fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```

*\n@SinceKotlin("1.3")\npublic expect fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
```

```

*\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun <T> Array<T>.copyOf(): Array<T>\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
```

```

*\npublic expect fun ByteArray.copyOf(): ByteArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample

```

samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun ShortArray.copyOf():  
 ShortArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun IntArray.copyOf(): IntArray\n\n/\*\*\n\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun LongArray.copyOf():  
 LongArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun FloatArray.copyOf():  
 FloatArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun DoubleArray.copyOf():  
 DoubleArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun BooleanArray.copyOf():  
 BooleanArray\n\n/\*\*\n \* Returns new array which is a copy of the original array.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.copyOf\n \*\n\npublic expect fun CharArray.copyOf():  
 CharArray\n\n/\*\*\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \*  
 The copy is either truncated or padded at the end with zero values if necessary.\n \* \n \* - If [newSize] is less than the  
 size of the original array, the copy array is truncated to the [newSize].\n \* - If [newSize] is greater than the size of  
 the original array, the extra elements in the copy array are filled with zero values.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n \*\n\npublic expect fun  
 ByteArray.copyOf(newSize: Int): ByteArray\n\n/\*\*\n \* Returns new array which is a copy of the original array,  
 resized to the given [newSize].\n \* The copy is either truncated or padded at the end with zero values if necessary.\n\n \*  
 \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* - If  
 [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero  
 values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n \*\n\npublic  
 expect fun ShortArray.copyOf(newSize: Int): ShortArray\n\n/\*\*\n \* Returns new array which is a copy of the  
 original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with zero values  
 if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the  
 [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are  
 filled with zero values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n\n \*  
 \*\n\npublic expect fun IntArray.copyOf(newSize: Int): IntArray\n\n/\*\*\n \* Returns new array which is a copy of the  
 original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with zero values  
 if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the  
 [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are  
 filled with zero values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n\n \*  
 \*\n\npublic expect fun LongArray.copyOf(newSize: Int): LongArray\n\n/\*\*\n \* Returns new array which is a copy of  
 the original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with zero  
 values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the  
 [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are  
 filled with zero values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n\n \*  
 \*\n\npublic expect fun FloatArray.copyOf(newSize: Int): FloatArray\n\n/\*\*\n \* Returns new array which is a copy of  
 the original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with zero  
 values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the  
 [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are  
 filled with zero values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n\n \*  
 \*\n\npublic expect fun DoubleArray.copyOf(newSize: Int): DoubleArray\n\n/\*\*\n \* Returns new array which is a  
 copy of the original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with  
 `false` values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is  
 truncated to the [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the  
 copy array are filled with `false` values.\n \* \n \* @sample

samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n \*\npublic expect fun  
 BooleanArray.copyOf(newSize: Int): BooleanArray\n\n/\*\*\n \* Returns new array which is a copy of the original  
 array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with null char ('\u0000')  
 values if necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the  
 [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are  
 filled with null char ('\u0000') values.\n \* \n \* @sample  
 samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n \*\npublic expect fun  
 CharArray.copyOf(newSize: Int): CharArray\n\n/\*\*\n \* Returns new array which is a copy of the original array,  
 resized to the given [newSize].\n \* The copy is either truncated or padded at the end with `null` values if  
 necessary.\n \* \n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the  
 [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are  
 filled with `null` values.\n \* \n \* @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n  
 \*\n@Suppress("NO\_ACTUAL\_FOR\_EXPECT")\npublic expect fun <T> Array<T>.copyOf(newSize: Int):  
 Array<T?>\n\n/\*\*\n \* Returns a new array which is a copy of the specified range of the original array.\n \* \n \* \n \*  
 @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to  
 copy.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the  
 size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n  
 \*\n@Suppress("NO\_ACTUAL\_FOR\_EXPECT")\npublic expect fun <T> Array<T>.copyOfRange(fromIndex:  
 Int, toIndex: Int): Array<T>\n\n/\*\*\n \* Returns a new array which is a copy of the specified range of the original  
 array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the  
 range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or  
 [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than  
 [toIndex].\n \*\npublic expect fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray\n\n/\*\*\n \*  
 Returns a new array which is a copy of the specified range of the original array.\n \* \n \* @param fromIndex the start  
 of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws  
 IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \*  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*\npublic expect fun  
 ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray\n\n/\*\*\n \* Returns a new array which is a copy  
 of the specified range of the original array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \*  
 @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if  
 [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws  
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*\npublic expect fun  
 IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray\n\n/\*\*\n \* Returns a new array which is a copy of the  
 specified range of the original array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \*  
 @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if  
 [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws  
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*\npublic expect fun  
 LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray\n\n/\*\*\n \* Returns a new array which is a copy  
 of the specified range of the original array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \*  
 @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if  
 [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws  
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*\npublic expect fun  
 FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray\n\n/\*\*\n \* Returns a new array which is a copy  
 of the specified range of the original array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \*  
 @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if  
 [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws  
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*\npublic expect fun  
 DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray\n\n/\*\*\n \* Returns a new array which is a

copy of the specified range of the original array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\npublic expect fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray\n\n/\*\*\n \* Returns a new array which is a copy of the specified range of the original array.\n \* \n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to copy.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\npublic expect fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if

[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws  
 IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \*/\n@SinceKotlin("1.3")\npublic expect fun  
 BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/\*\*\n \* Fills this array or its  
 subrange with the specified [element] value.\n \* \n \* @param fromIndex the start of the range (inclusive) to fill, 0  
 by default.\n \* @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n \* \n \*  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this  
 array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n  
 \*/\n@SinceKotlin("1.3")\npublic expect fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size):  
 Unit\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val <T> Array<out T>.indices:  
 IntRange\n  
 get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic  
 val ByteArray.indices: IntRange\n  
 get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for  
 the array.\n \*/\npublic val ShortArray.indices: IntRange\n  
 get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the  
 range of valid indices for the array.\n \*/\npublic val IntArray.indices: IntRange\n  
 get() = IntRange(0,  
 lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val LongArray.indices:  
 IntRange\n  
 get() = IntRange(0,  
 lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic  
 val FloatArray.indices: IntRange\n  
 get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for  
 the array.\n \*/\npublic val DoubleArray.indices: IntRange\n  
 get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns the  
 range of valid indices for the array.\n \*/\npublic val BooleanArray.indices: IntRange\n  
 get() = IntRange(0,  
 lastIndex)\n\n/\*\*\n \* Returns the range of valid indices for the array.\n \*/\npublic val CharArray.indices: IntRange\n  
 get() = IntRange(0, lastIndex)\n\n/\*\*\n \* Returns `true` if the array is empty.\n  
 \*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isEmpty(): Boolean {\n  
 return size ==  
 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun  
 ByteArray.isEmpty(): Boolean {\n  
 return size == 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n  
 \*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isEmpty(): Boolean {\n  
 return size == 0}\n\n/\*\*\n \*  
 Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isEmpty():  
 Boolean {\n  
 return size == 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n  
 \*/\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isEmpty(): Boolean {\n  
 return size == 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isEmpty():  
 Boolean {\n  
 return size == 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n  
 \*/\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isEmpty(): Boolean {\n  
 return size ==  
 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun  
 BooleanArray.isEmpty(): Boolean {\n  
 return size == 0}\n\n/\*\*\n \* Returns `true` if the array is empty.\n  
 \*/\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isEmpty(): Boolean {\n  
 return size == 0}\n\n/\*\*\n \*  
 Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out  
 T>.isNotEmpty(): Boolean {\n  
 return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n  
 \*/\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isNotEmpty(): Boolean {\n  
 return  
 !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline  
 fun ShortArray.isNotEmpty(): Boolean {\n  
 return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not  
 empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isNotEmpty(): Boolean {\n  
 return  
 !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline  
 fun LongArray.isNotEmpty(): Boolean {\n  
 return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not  
 empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isNotEmpty(): Boolean {\n  
 return  
 !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline  
 fun DoubleArray.isNotEmpty(): Boolean {\n  
 return !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not  
 empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isNotEmpty(): Boolean {\n  
 return  
 !isEmpty()\n}\n\n/\*\*\n \* Returns `true` if the array is not empty.\n \*/\n@kotlin.internal.InlineOnly\npublic inline  
 fun CharArray.isNotEmpty(): Boolean {\n  
 return !isEmpty()\n}\n\n/\*\*\n \* Returns the last valid index for the  
 array.\n \*/\npublic val <T> Array<out T>.lastIndex: Int\n  
 get() = size - 1\n\n/\*\*\n \* Returns the last valid index

for the array.  
`public val ByteArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val ShortArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val IntArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val LongArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val FloatArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val DoubleArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val BooleanArray.lastIndex: Int` `get() = size - 1` \* Returns the last valid index for the array.  
`public val CharArray.lastIndex: Int` `get() = size - 1` \* Returns an array containing all elements of the original array and then the given [element].  
`@Suppress("NO_ACTUAL_FOR_EXPECT")` `public expect operator fun <T> Array<T>.plus(element: T): Array<T>` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun ByteArray.plus(element: Byte): ByteArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun ShortArray.plus(element: Short): ShortArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun IntArray.plus(element: Int): IntArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun LongArray.plus(element: Long): LongArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun FloatArray.plus(element: Float): FloatArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun DoubleArray.plus(element: Double): DoubleArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun BooleanArray.plus(element: Boolean): BooleanArray` \* Returns an array containing all elements of the original array and then the given [element].  
`public expect operator fun CharArray.plus(element: Char): CharArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`@Suppress("NO_ACTUAL_FOR_EXPECT")` `public expect operator fun <T> Array<T>.plus(elements: Collection<T>): Array<T>` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun ShortArray.plus(elements: Collection<Short>): ShortArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun IntArray.plus(elements: Collection<Int>): IntArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun LongArray.plus(elements: Collection<Long>): LongArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun FloatArray.plus(elements: Collection<Float>): FloatArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.  
`public expect operator fun CharArray.plus(elements: Collection<Char>): CharArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] array.  
`@Suppress("NO_ACTUAL_FOR_EXPECT")` `public expect operator fun <T> Array<T>.plus(elements: Array<out T>): Array<T>` \* Returns an array containing all elements of the original array and then all elements of the given [elements] array.  
`public expect operator fun ByteArray.plus(elements: ByteArray): ByteArray` \* Returns an array containing all elements of the original array and then all elements of the given [elements] array.  
`public expect operator fun ShortArray.plus(elements: ShortArray):`

`ShortArray.plus(elements: IntArray): IntArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`IntArray.plus(elements: IntArray): IntArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`LongArray.plus(elements: LongArray): LongArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`FloatArray.plus(elements: FloatArray): FloatArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`DoubleArray.plus(elements: DoubleArray): DoubleArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`BooleanArray.plus(elements: BooleanArray): BooleanArray` Returns an array containing all elements of the original array and then all elements of the given [elements] array.

`CharArray.plus(elements: CharArray): CharArray` Returns an array containing all elements of the original array and then the given [element].

`Array<T>.plusElement(element: T): Array<T>` Sorts the array in-place.

`samples.collections.Arrays.Sorting.sortArray` Sorts the array in-place.

`IntArray.sort(): Unit` Sorts the array in-place.

`LongArray.sort(): Unit` Sorts the array in-place.

`ByteArray.sort(): Unit` Sorts the array in-place.

`ShortArray.sort(): Unit` Sorts the array in-place.

`DoubleArray.sort(): Unit` Sorts the array in-place.

`FloatArray.sort(): Unit` Sorts the array in-place.

`CharArray.sort(): Unit` Sorts the array in-place according to the natural order of its elements. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

`samples.collections.Arrays.Sorting.sortArrayOfComparable` Sorts a range in the array in-place. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

`Comparable<T>> Array<out T>.sort(): Unit` Sorts a range in the array in-place. The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.

`fromIndex` the start of the range (inclusive) to sort, 0 by default.

`toIndex` the end of the range (exclusive) to sort, size of this array by default.

`throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.

`throws IllegalArgumentException` if [fromIndex] is greater than [toIndex].

`samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable` Sorts a range in the array in-place.

`<T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit` Sorts a range in the array in-place.

`fromIndex` the start of the range (inclusive) to sort, 0 by default.

`toIndex` the end of the range (exclusive) to sort, size of this array by default.

`throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.

`throws IllegalArgumentException` if [fromIndex] is greater than [toIndex].

`samples.collections.Arrays.Sorting.sortRangeOfArray` Sorts a range in the array in-place.

`ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit` Sorts a range in the array in-place.

`fromIndex` the start of the range (inclusive) to sort, 0 by default.

`toIndex` the end of the range (exclusive) to sort, size of this array by default.

`throws IndexOutOfBoundsException` if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.



@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \* \n \* @sample  
 samples.collections.Arrays.Sorting.sortRangeOfArray\n \* \n \* @SinceKotlin("1.4")\n public expect fun  
 IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n \* \n \* \n \* Sorts a range in the array in-place.\n \* \n \*  
 @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n \* @param toIndex the end of the range  
 (exclusive) to sort, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is  
 less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if  
 [fromIndex] is greater than [toIndex].\n \* \n \* @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n  
 \* \n \* @SinceKotlin("1.4")\n public expect fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n \* \n \* \n \*  
 \* Sorts a range in the array in-place.\n \* \n \* @param fromIndex the start of the range (inclusive) to sort, 0 by  
 default.\n \* @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n \* \n \* @throws  
 IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \*  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \* \n \* @sample  
 samples.collections.Arrays.Sorting.sortRangeOfArray\n \* \n \* @SinceKotlin("1.4")\n public expect fun  
 FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n \* \n \* \n \* Sorts a range in the array in-place.\n \* \n \*  
 @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n \* @param toIndex the end of the range  
 (exclusive) to sort, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is  
 less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if  
 [fromIndex] is greater than [toIndex].\n \* \n \* @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n  
 \* \n \* @SinceKotlin("1.4")\n public expect fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size):  
 Unit\n \* \n \* \n \* Sorts a range in the array in-place.\n \* \n \* @param fromIndex the start of the range (inclusive) to  
 sort, 0 by default.\n \* @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n \* \n \*  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this  
 array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n \* \n \* @sample  
 samples.collections.Arrays.Sorting.sortRangeOfArray\n \* \n \* @SinceKotlin("1.4")\n public expect fun  
 CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n \* \n \* \n \* Sorts elements of the array in the specified  
 range in-place.\n \* The elements are sorted descending according to their natural sort order.\n \* \n \* The sort is  
 \_stable\_. It means that equal elements preserve their order relative to each other after sorting.\n \* \n \* @param  
 fromIndex the start of the range (inclusive) to sort.\n \* @param toIndex the end of the range (exclusive) to sort.\n \*  
 \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of  
 this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n  
 \* \n \* @SinceKotlin("1.4")\n public fun <T : Comparable<T>> Array<out T>.sortDescending(fromIndex: Int,  
 toIndex: Int): Unit {\n \* \n \* \n \* sortWith(reverseOrder(), fromIndex, toIndex)\n \* \n \* \n \* Sorts elements of the array in  
 the specified range in-place.\n \* The elements are sorted descending according to their natural sort order.\n \* \n \*  
 @param fromIndex the start of the range (inclusive) to sort.\n \* @param toIndex the end of the range (exclusive) to  
 sort.\n \* \n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the  
 size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n  
 \* \n \* @SinceKotlin("1.4")\n public fun ByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n \* \n \* \n \*  
 sort(fromIndex, toIndex)\n \* \n \* \n \* reverse(fromIndex, toIndex)\n \* \n \* \n \* Sorts elements of the array in the specified  
 range in-place.\n \* The elements are sorted descending according to their natural sort order.\n \* \n \* @param  
 fromIndex the start of the range (inclusive) to sort.\n \* @param toIndex the end of the range (exclusive) to sort.\n \*  
 \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of  
 this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n  
 \* \n \* @SinceKotlin("1.4")\n public fun ShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n \* \n \* \n \*  
 sort(fromIndex, toIndex)\n \* \n \* \n \* reverse(fromIndex, toIndex)\n \* \n \* \n \* Sorts elements of the array in the specified  
 range in-place.\n \* The elements are sorted descending according to their natural sort order.\n \* \n \* @param  
 fromIndex the start of the range (inclusive) to sort.\n \* @param toIndex the end of the range (exclusive) to sort.\n \*  
 \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of  
 this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n

```

*\n@SinceKotlin("1.4")\npublic fun IntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified
range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param
fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n
*\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\npublic fun LongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified
range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param
fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n
*\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\npublic fun FloatArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified
range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param
fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n
*\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\npublic fun DoubleArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified
range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param
fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n
*\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of
this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n
sort(fromIndex, toIndex)\n  reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts the array in-place according to the
order specified by the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n */\npublic expect fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>): Unit\n\n/**\n * Sorts a range in the array in-place with the given [comparator].\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n
*\n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range
(exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is
less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if
[fromIndex] is greater than [toIndex].\n */\npublic expect fun <T> Array<out T>.sortWith(comparator:
Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Returns an array of Boolean containing
all of the elements of this generic array.\n */\npublic fun Array<out Boolean>.toBooleanArray(): BooleanArray {\n
return BooleanArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Byte containing all of the
elements of this generic array.\n */\npublic fun Array<out Byte>.toByteArray(): ByteArray {\n  return
ByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Char containing all of the elements of this
generic array.\n */\npublic fun Array<out Char>.toCharArray(): CharArray {\n  return CharArray(size) { index ->
this[index] }\n}\n\n/**\n * Returns an array of Double containing all of the elements of this generic array.\n
*\npublic fun Array<out Double>.toDoubleArray(): DoubleArray {\n  return DoubleArray(size) { index ->
this[index] }\n}\n\n/**\n * Returns an array of Float containing all of the elements of this generic array.\n
*\npublic fun Array<out Float>.toFloatArray(): FloatArray {\n  return FloatArray(size) { index -> this[index] }\n}\n\n/**\n
*\n * Returns an array of Int containing all of the elements of this generic array.\n */\npublic fun Array<out
Int>.toIntArray(): IntArray {\n  return IntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of
Long containing all of the elements of this generic array.\n */\npublic fun Array<out Long>.toLongArray():
LongArray {\n  return LongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Short containing

```

all of the elements of this generic array.

```

public fun Array<out Short>.toShortArray(): ShortArray {
    return ShortArray(size) { index -> this[index] }
}

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun ByteArray.toTypedArray(): Array<Byte>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun ShortArray.toTypedArray(): Array<Short>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun IntArray.toTypedArray(): Array<Int>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun LongArray.toTypedArray(): Array<Long>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun FloatArray.toTypedArray(): Array<Float>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun DoubleArray.toTypedArray(): Array<Double>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun BooleanArray.toTypedArray(): Array<Boolean>

```

\* Returns a \*typed\* object array containing all of the elements of this primitive array.

```

public expect fun CharArray.toTypedArray(): Array<Char>

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives
public inline fun <T, K, V> Array<out T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives
public inline fun <K, V> ByteArray.associate(transform: (Byte) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives
public inline fun <K, V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives
public inline fun <K, V> IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives
public inline fun <K, V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {
    val capacity = mapCapacity(size).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

\* Returns a [Map] containing key-value pairs provided by [transform] function applied to elements of the given array.

\* If any of two pairs would have the same key the last one gets added to the map.

\* The returned map preserves the entry iteration order of the original array.

```

@sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives
public inline fun <K, V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {
    val capacity =

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mapCapacity(size).coerceAtLeast(16)\n  return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n *\npublic inline fun <K, V>
CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <T, K>
Array<out T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, T>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <K>
ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Byte>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <K>
ShortArray.associateBy(keySelector: (Short) -> K): Map<K, Short> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Short>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n *\npublic inline fun <K>
IntArray.associateBy(keySelector: (Int) -> K): Map<K, Int> {\n  val capacity =
mapCapacity(size).coerceAtLeast(16)\n  return associateByTo(LinkedHashMap<K, Int>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *

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returned from [keySelector] function applied to each element.\n \* \n \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration order of the original array.\n \* \n \* @sample

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samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Long>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
```

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n \*/\npublic inline fun <K>
FloatArray.associateBy(keySelector: (Float) -> K): Map<K, Float> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Float>(capacity),
keySelector)\n}\n\n/\*\*\n \* Returns a [Map] containing the elements from the given array indexed by the key\n \*
returned from [keySelector] function applied to each element.\n \* \n \* If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration
order of the original array.\n \* \n \* @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n \*/\npublic inline fun <K>
DoubleArray.associateBy(keySelector: (Double) -> K): Map<K, Double> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Double>(capacity),
keySelector)\n}\n\n/\*\*\n \* Returns a [Map] containing the elements from the given array indexed by the key\n \*
returned from [keySelector] function applied to each element.\n \* \n \* If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration
order of the original array.\n \* \n \* @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n \*/\npublic inline fun <K>
BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Boolean>(capacity),
keySelector)\n}\n\n/\*\*\n \* Returns a [Map] containing the elements from the given array indexed by the key\n \*
returned from [keySelector] function applied to each element.\n \* \n \* If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration
order of the original array.\n \* \n \* @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n \*/\npublic inline fun <K>
CharArray.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n val capacity =
mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/\*\*\n \* Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n \* \n \* If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration
order of the original array.\n \* \n \* @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n \*/\npublic inline
fun <T, K, V> Array<out T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/\*\*\n \* Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n \* \n \* If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves
the entry iteration order of the original array.\n \* \n \* @sample

samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n \*/\npublic inline
fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),

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keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V> {\n
val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> LongArray.associateBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> FloatArray.associateBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, V> {\n val
capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> DoubleArray.associateBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, V>
{\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by
[valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> BooleanArray.associateBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, V>
{\n val capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by
[valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n *\npublic inline
fun <K, V> CharArray.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n val

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capacity = mapCapacity(size).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n\n\n \* Populates and returns the [destination] mutable map with key-value pairs,\n \* where key is provided by the [keySelector] function applied to each element of the given array\n \* and value is the element itself.\n \* \n \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* @sample

```
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <T, K, M : MutableMap<in K, in T>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <K, M : MutableMap<in K, in Byte>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <K, M : MutableMap<in K, in Short>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <K, M : MutableMap<in K, in Int>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <K, M : MutableMap<in K, in Long>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <K, M : MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public inline fun <K, M : MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n * public
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inline fun <K, M : MutableMap<in K, in Boolean>> BooleanArray.associateByTo(destination: M, keySelector:
(Boolean) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n
return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where
key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element
itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic
inline fun <K, M : MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) ->
K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is
provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to
elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last
one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -
> K, valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) ->
K, valueTransform: (Byte) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) ->
K, valueTransform: (Short) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K,
valueTransform: (Int) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) ->
K, valueTransform: (Long) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic

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inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) ->
K, valueTransform: (Float) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by
the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector:
(Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector]
function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n *
\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *
\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateByTo(destination: M,
keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {\n for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector]
function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n *
\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *
\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateByTo(destination: M, keySelector:
(Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n
destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic
inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateTo(destination: M, transform: (T) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key
the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M :
MutableMap<in K, in V>> ByteArray.associateTo(destination: M, transform: (Byte) -> Pair<K, V>): M {\n for
(element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic
inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateTo(destination: M, transform: (Short) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key
the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M :
MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K, V>): M {\n for
(element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the

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map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *^npublic
inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateTo(destination: M, transform: (Long) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key
the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *^npublic inline fun <K, V, M :
MutableMap<in K, in V>> FloatArray.associateTo(destination: M, transform: (Float) -> Pair<K, V>): M {\n for
(element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *^npublic
inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateTo(destination: M, transform: (Double) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key
the last one gets added to the map.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *^npublic inline fun <K, V, M :
MutableMap<in K, in V>> BooleanArray.associateTo(destination: M, transform: (Boolean) -> Pair<K, V>): M {\n
for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates
and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each
element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n *^npublic
inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateTo(destination: M, transform: (Char) ->
Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return
destination\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced
by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n *^n@SinceKotlin("1.4")\npublic inline
fun <K, V> Array<out K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result =
LinkedHashMap<K, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n
*^n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ByteArray.associateWith(valueSelector: (Byte) -> V): Map<Byte, V> {\n val result = LinkedHashMap<Byte,
V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*^n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ShortArray.associateWith(valueSelector: (Short) -> V): Map<Short, V> {\n val result = LinkedHashMap<Short,
V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample

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samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
IntArray.associateWith(valueSelector: (Int) -> V): Map<Int, V> {\n    val result = LinkedHashMap<Int,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
LongArray.associateWith(valueSelector: (Long) -> V): Map<Long, V> {\n    val result = LinkedHashMap<Long,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
FloatArray.associateWith(valueSelector: (Float) -> V): Map<Float, V> {\n    val result = LinkedHashMap<Float,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
DoubleArray.associateWith(valueSelector: (Double) -> V): Map<Double, V> {\n    val result =
LinkedHashMap<Double, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
BooleanArray.associateWith(valueSelector: (Boolean) -> V): Map<Boolean, V> {\n    val result =
LinkedHashMap<Boolean, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one
gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n *
@sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V>
CharArray.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n    val result = LinkedHashMap<Char,
V>(mapCapacity(size).coerceAtMost(128)).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function
applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *
@sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\npublic
inline fun <K, V, M : MutableMap<in K, in V>> Array<out K>.associateWithTo(destination: M, valueSelector: (K)
-> V): M {\n    for (element in this) {\n        destination.put(element, valueSelector(element))\n    }\n    return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied
to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *

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@sample samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Byte, in V>>
ByteArray.associateWithTo(destination: M, valueSelector: (Byte) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Short, in V>>
ShortArray.associateWithTo(destination: M, valueSelector: (Short) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Int, in V>>
IntArray.associateWithTo(destination: M, valueSelector: (Int) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Long, in V>>
LongArray.associateWithTo(destination: M, valueSelector: (Long) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Float, in V>>
FloatArray.associateWithTo(destination: M, valueSelector: (Float) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Double, in V>>
DoubleArray.associateWithTo(destination: M, valueSelector: (Double) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element
itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are
equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Boolean, in
V>> BooleanArray.associateWithTo(destination: M, valueSelector: (Boolean) -> V): M {\n  for (element in this)
{\n  destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n * Populates and
returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the
element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements

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are equal, the last one overwrites the former value in the map.

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samples.collections.Collections.Transformations.associateWithTo
*/
@SinceKotlin("1.4")
@kotlin.internal.InlineOnly
public inline fun <V, M : MutableMap<in Char, in V>>
CharArray.associateWithTo(destination: M, valueSelector: (Char) -> V): M {
    for (element in this) {
        destination.put(element, valueSelector(element))
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <T, C : MutableCollection<in T>> Array<out T>.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Byte>> ByteArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Short>> ShortArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Int>> IntArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Long>> LongArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Float>> FloatArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Double>> DoubleArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Boolean>> BooleanArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Appends all elements to the given [destination] collection.
*/
public fun <C : MutableCollection<in Char>> CharArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}
*/
Returns a new [HashSet] of all elements.
*/
public fun <T> Array<out T>.toHashSet(): HashSet<T> {
    return toCollection(HashSet<T>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun ByteArray.toHashSet(): HashSet<Byte> {
    return toCollection(HashSet<Byte>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun ShortArray.toHashSet(): HashSet<Short> {
    return toCollection(HashSet<Short>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun IntArray.toHashSet(): HashSet<Int> {
    return toCollection(HashSet<Int>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun LongArray.toHashSet(): HashSet<Long> {
    return toCollection(HashSet<Long>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun FloatArray.toHashSet(): HashSet<Float> {
    return toCollection(HashSet<Float>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun DoubleArray.toHashSet(): HashSet<Double> {
    return toCollection(HashSet<Double>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun BooleanArray.toHashSet(): HashSet<Boolean> {
    return toCollection(HashSet<Boolean>(mapCapacity(size)))
}
*/
Returns a new [HashSet] of all elements.
*/
public fun CharArray.toHashSet(): HashSet<Char> {
    return toCollection(HashSet<Char>(mapCapacity(size.coerceAtMost(128))))
}
*/
Returns a [List] containing all elements.
*/
public fun <T> Array<out T>.toList(): List<T> {
    return when (size) {
        0 -> emptyList()
        1 -> listOf(this[0])
        else -> this.toMutableList()
    }
}
*/
Returns a [List] containing all elements.
*/
public fun ByteArray.toList(): List<Byte> {
    return when (size) {
        0 -> emptyList()
        1 -> listOf(this[0])
        else -> this.toMutableList()
    }
}
*/
Returns a [List] containing all elements.
*/

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*\npublic fun ShortArray.toList(): List<Short> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n*\npublic fun IntArray.toList(): List<Int> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n*\npublic fun LongArray.toList(): List<Long> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n*\npublic fun FloatArray.toList(): List<Float> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n*\npublic fun DoubleArray.toList(): List<Double> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n*\npublic fun BooleanArray.toList(): List<Boolean> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\n*\npublic fun CharArray.toList(): List<Char> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun <T> Array<out T>.toMutableList(): MutableList<T> {\n    return ArrayList(this.asCollection())\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun ByteArray.toMutableList(): MutableList<Byte> {\n    val list = ArrayList<Byte>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun ShortArray.toMutableList(): MutableList<Short> {\n    val list = ArrayList<Short>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun IntArray.toMutableList(): MutableList<Int> {\n    val list = ArrayList<Int>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun LongArray.toMutableList(): MutableList<Long> {\n    val list = ArrayList<Long>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun FloatArray.toMutableList(): MutableList<Float> {\n    val list = ArrayList<Float>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun DoubleArray.toMutableList(): MutableList<Double> {\n    val list = ArrayList<Double>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun BooleanArray.toMutableList(): MutableList<Boolean> {\n    val list = ArrayList<Boolean>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\n*\npublic fun CharArray.toMutableList(): MutableList<Char> {\n    val list = ArrayList<Char>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n*\npublic fun <T> Array<out T>.toSet(): Set<T> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n*\npublic fun ByteArray.toSet(): Set<Byte> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n*\npublic fun ShortArray.toSet(): Set<Short> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n*\npublic fun IntArray.toSet(): Set<Int> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\n*\npublic fun LongArray.toSet(): Set<Long> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */

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* The returned set preserves the element iteration order of the original array.\n */\npublic fun FloatArray.toSet():
Set<Float> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n */\n * The returned set preserves the element iteration order of the original array.\n */\npublic fun DoubleArray.toSet():
Set<Double> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n */\n\n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
BooleanArray.toSet(): Set<Boolean> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n    }
else -> toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a [Set] of all
elements.\n */\n\n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
CharArray.toSet(): Set<Char> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -
-> toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n    }\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n */\n *
@sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <T, R> Array<out
T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n *
Returns a single list of all elements yielded from results of [transform] function being invoked on each element of
original array.\n */\n\n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun
<R> ByteArray.flatMap(transform: (Byte) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\n\n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> ShortArray.flatMap(transform:
(Short) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n */\n *
@sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
IntArray.flatMap(transform: (Int) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\n\n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> LongArray.flatMap(transform:
(Long) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n */\n *
@sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
FloatArray.flatMap(transform: (Float) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\n\n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
DoubleArray.flatMap(transform: (Double) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\n\n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R>
BooleanArray.flatMap(transform: (Boolean) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\n\n * @sample
samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> CharArray.flatMap(transform:
(Char) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single
list of all elements yielded from results of [transform] function being invoked on each element of original array.\n */\n *
@sample samples.collections.Collections.Transformations.flatMap\n\n */\n\n * @SinceKotlin("1.4")\n */\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <T, R> Array<out

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T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element\n * and its index in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.flatMapIndexed(transform: (index: Int, Byte) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ShortArray.flatMapIndexed(transform: (index: Int, Short) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> IntArray.flatMapIndexed(transform: (index: Int, Int) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.flatMapIndexed(transform: (index: Int, Long) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> FloatArray.flatMapIndexed(transform: (index: Int, Float) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.flatMapIndexed(transform: (index: Int, Double) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic

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inline fun <R> BooleanArray.flatMapIndexed(transform: (index: Int, Boolean) -> Iterable<R>): List<R> {\n
return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded
from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++,
element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Byte) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++,
element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Short) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++,
element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> IntArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Int) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n
destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> LongArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Long) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++,

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element)\n    destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Float) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++,
element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapIndexedTo(destination: C, transform: (index:
Int, Double) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++,
element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> BooleanArray.flatMapIndexedTo(destination: C, transform: (index:
Int, Boolean) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++,
element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> CharArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Char) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++,
element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npu
blic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n
*\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C,
transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n
*\npublic inline
fun <R, C : MutableCollection<in R>> ByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C
{\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n
*\npublic inline
fun <R, C : MutableCollection<in R>> ShortArray.flatMapTo(destination: C, transform: (Short) -> Iterable<R>): C {\n    for (element in this) {\n        val
list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given

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[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C,
transform: (Int) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination}\n\n/>\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> LongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C
{\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination}\n\n/>\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
FloatArray.flatMapTo(destination: C, transform: (Float) -> Iterable<R>): C {\n for (element in this) {\n val
list = transform(element)\n destination.addAll(list)\n }\n return destination}\n\n/>\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C,
transform: (Double) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n
destination.addAll(list)\n }\n return destination}\n\n/>\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> BooleanArray.flatMapTo(destination: C, transform: (Boolean) ->
Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n
}\n return destination}\n\n/>\n * Appends all elements yielded from results of [transform] function being
invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> CharArray.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination}\n\n/>\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <T, R, C :
MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n for
(element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination}\n\n/>\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun
<T, K> Array<out T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return
groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/>\n * Groups elements of the original
array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where
each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n return groupByTo(LinkedHashMap<K,
MutableList<Byte>>(), keySelector)\n}\n\n/>\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n}\n\n/>\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>

```

```

IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {\n  return groupByTo(LinkedHashMap<K,
MutableList<Int>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {\n  return groupByTo(LinkedHashMap<K,
MutableList<Float>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> DoubleArray.groupBy(keySelector: (Double) -> K): Map<K, List<Double>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<Double>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n  return groupByTo(LinkedHashMap<K,
MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied
to each element of the original array\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V>
Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>
ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>

```

```

ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V>
IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V>
LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V>
FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V>
DoubleArray.groupBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V>
BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n */\npublic inline fun <K, V>
CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n  return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline
fun <T, K, M : MutableMap<in K, MutableList<T>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -

```

```

-> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key)
{ ArrayList<T>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline
fun <K, M : MutableMap<in K, MutableList<Byte>>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -
-> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key)
{ ArrayList<Byte>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline
fun <K, M : MutableMap<in K, MutableList<Short>>>> ShortArray.groupByTo(destination: M, keySelector: (Short)
-> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Short>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Int>>>> IntArray.groupByTo(destination: M,
keySelector: (Int) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Int>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Long>>>> LongArray.groupByTo(destination: M,
keySelector: (Long) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Long>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Float>>>> FloatArray.groupByTo(destination: M,
keySelector: (Float) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Float>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Double>>>> DoubleArray.groupByTo(destination: M,
keySelector: (Double) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Double>() }\n    list.add(element)\n  }\n  return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*/\npublic inline fun <K, M : MutableMap<in K, MutableList<Boolean>>>> BooleanArray.groupByTo(destination:
M, keySelector: (Boolean) -> K): M {\n  for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<Boolean>() }\n    list.add(element)\n  }\n  return
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]
function\n * applied to each element and puts to the [destination] map each group key associated with a list of
corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K,

```

```

MutableList<Char>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<Char>() }
        list.add(element)
    }
    return destination
}

/**
 * Groups values returned by the [valueTransform] function
 * applied to each element of the original array
 * by the key returned by the given [keySelector] function applied to
 * the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */
@sample
samples.collections.Collections.Transformations.groupByKeyAndValues

/**
 * public inline fun <T, K, V, M : MutableMap<in K, MutableList<V>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K,
 * valueTransform: (T) -> V): M {
 *     for (element in this) {
 *         val key = keySelector(element)
 *         val list = destination.getOrPut(key) { ArrayList<V>() }
 *         list.add(valueTransform(element))
 *     }
 *     return destination
 * }
 *
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */
@sample
samples.collections.Collections.Transformations.groupByKeyAndValues

/**
 * public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ByteArray.groupByTo(destination: M, keySelector:
 * (Byte) -> K, valueTransform: (Byte) -> V): M {
 *     for (element in this) {
 *         val key = keySelector(element)
 *         val list = destination.getOrPut(key) { ArrayList<V>() }
 *         list.add(valueTransform(element))
 *     }
 *     return destination
 * }
 *
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */
@sample
samples.collections.Collections.Transformations.groupByKeyAndValues

/**
 * public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ShortArray.groupByTo(destination: M, keySelector:
 * (Short) -> K, valueTransform: (Short) -> V): M {
 *     for (element in this) {
 *         val key = keySelector(element)
 *         val list = destination.getOrPut(key) { ArrayList<V>() }
 *         list.add(valueTransform(element))
 *     }
 *     return destination
 * }
 *
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */
@sample
samples.collections.Collections.Transformations.groupByKeyAndValues

/**
 * public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> IntArray.groupByTo(destination: M, keySelector:
 * (Int) -> K, valueTransform: (Int) -> V): M {
 *     for (element in this) {
 *         val key = keySelector(element)
 *         val list = destination.getOrPut(key) { ArrayList<V>() }
 *         list.add(valueTransform(element))
 *     }
 *     return destination
 * }
 *
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */
@sample
samples.collections.Collections.Transformations.groupByKeyAndValues

/**
 * public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> LongArray.groupByTo(destination: M, keySelector:
 * (Long) -> K, valueTransform: (Long) -> V): M {
 *     for (element in this) {
 *         val key = keySelector(element)
 *         val list = destination.getOrPut(key) { ArrayList<V>() }
 *         list.add(valueTransform(element))
 *     }
 *     return destination
 * }
 *
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */
@sample
samples.collections.Collections.Transformations.groupByKeyAndValues

/**
 * public inline fun <K, V, M : MutableMap<in K, MutableList<V>>> FloatArray.groupByTo(destination: M, keySelector:
 * (Float) -> K, valueTransform: (Float) -> V): M {
 *     for (element in this) {
 *         val key = keySelector(element)
 *         val list = destination.getOrPut(key) { ArrayList<V>() }
 *         list.add(valueTransform(element))
 *     }
 *     return destination
 * }
 *
 * Groups values returned by the [valueTransform] function applied to each element of the
 * original array
 * by the key returned by the given [keySelector] function applied to the element
 * and puts to the [destination] map each group key associated with a list of corresponding values.
 *
 * @return The [destination] map.
 */

```

```

map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> DoubleArray.groupByTo(destination: M, keySelector:
(Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n val key =
keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K,
valueTransform: (Boolean) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n * \n\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> CharArray.groupByTo(destination: M, keySelector:
(Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n
val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Creates a [Grouping] source from an array to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n * \n\n@SinceKotlin("1.1")\n\npublic inline fun <T, K>
Array<out T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n return object : Grouping<T,
K> {\n override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n override fun
keyOf(element: T): K = keySelector(element)\n }\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <T, R> Array<out T>.map(transform:
(T) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> ByteArray.map(transform: (Byte)
-> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> ShortArray.map(transform:
(Short) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> IntArray.map(transform: (Int) ->
R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results
of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> LongArray.map(transform:
(Long) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> FloatArray.map(transform: (Float)
-> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> DoubleArray.map(transform:
(Double) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.map\n * \n\npublic inline fun <R> BooleanArray.map(transform:

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(Boolean) -> R): List<R> {\n  return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list
containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R>
CharArray.map(transform: (Char) -> R): List<R> {\n  return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original array.\n * @param [transform] function that takes the index of an element and the element itself\n *
and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R> Array<out
T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element and its index in the original array.\n * @param [transform] function that takes the index of an element and
the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R>
ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n */\npublic inline fun <R> ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n */\npublic inline fun <R> IntArray.mapIndexed(transform: (index: Int, Int) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n */\npublic inline fun <R> LongArray.mapIndexed(transform: (index: Int, Long) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n */\npublic inline fun <R> FloatArray.mapIndexed(transform: (index: Int, Float) -
> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing
the results of applying the given [transform] function\n * to each element and its index in the original array.\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <R> DoubleArray.mapIndexed(transform: (index: Int,
Double) -> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list
containing the results of applying the given [transform] function\n * to each element and its index in the original
array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the
result of the transform applied to the element.\n */\npublic inline fun <R> BooleanArray.mapIndexed(transform:
(index: Int, Boolean) -> R): List<R> {\n  return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original array.\n * @param [transform] function that takes the index of an element and the element itself\n *
and returns the result of the transform applied to the element.\n */\npublic inline fun <R>
CharArray.mapIndexed(transform: (index: Int, Char) -> R): List<R> {\n  return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n */\npublic inline fun <T, R : Any> Array<out
T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n  return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original array\n * and appends only the non-null results to the given [destination].\n *

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@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <T, R : Any, C : MutableCollection<in R>> Array<out T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> ByteArray.mapIndexedTo(destination: C, transform: (index: Int, Byte) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> ShortArray.mapIndexedTo(destination: C, transform: (index: Int, Short) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> IntArray.mapIndexedTo(destination: C, transform: (index: Int, Int) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> LongArray.mapIndexedTo(destination: C, transform: (index: Int, Long) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> FloatArray.mapIndexedTo(destination: C, transform: (index: Int, Float) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> DoubleArray.mapIndexedTo(destination: C, transform: (index: Int, Double) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> BooleanArray.mapIndexedTo(destination: C, transform: (index: Int, Boolean) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n
 \*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \*

@param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n
 public inline fun <R, C : MutableCollection<in R>> CharArray.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {\n var index = 0\n for (item in

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this)\n    destination.add(transform(index++, item))\n    return destination\n}\n\n/**\n * Returns a list containing
only the non-null results of applying the given [transform] function\n * to each element in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic inline fun <T, R : Any>
Array<out T>.mapNotNull(transform: (T) -> R?): List<R> {\n    return mapNotNullTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Applies the given [transform] function to each element in the original array\n * and
appends only the non-null results to the given [destination].\n */\npublic inline fun <T, R : Any, C :
MutableCollection<in R>> Array<out T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n    forEach {
element -> transform(element)?.let { destination.add(it) } }\n    return destination\n}\n\n/**\n * Applies the given
[transform] function to each element of the original array\n * and appends the results to the given [destination].\n
*/\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapTo(destination: C, transform: (T) ->
R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the
given [transform] function to each element of the original array\n * and appends the results to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.mapTo(destination: C,
transform: (Byte) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return
destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and
appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
ShortArray.mapTo(destination: C, transform: (Short) -> R): C {\n    for (item in this)\n
destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each
element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> IntArray.mapTo(destination: C, transform: (Int) -> R): C {\n    for (item in this)\n
destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to each
element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> LongArray.mapTo(destination: C, transform: (Long) -> R): C {\n    for (item in this)\n
destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform] function to
each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R,
C : MutableCollection<in R>> FloatArray.mapTo(destination: C, transform: (Float) -> R): C {\n    for (item in
this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the given [transform]
function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic
inline fun <R, C : MutableCollection<in R>> DoubleArray.mapTo(destination: C, transform: (Double) -> R): C {\n
    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Applies the
given [transform] function to each element of the original array\n * and appends the results to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.mapTo(destination: C,
transform: (Boolean) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return
destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends
the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> CharArray.mapTo(destination: C,
transform: (Char) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return
destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an
[IndexValue] containing the index of that element and the element itself.\n */\npublic fun <T> Array<out
T>.withIndex(): Iterable<IndexedValue<T>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a
lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that
element and the element itself.\n */\npublic fun ByteArray.withIndex(): Iterable<IndexedValue<Byte>> {\n    return
IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n
* into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun
ShortArray.withIndex(): Iterable<IndexedValue<Short>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the
index of that element and the element itself.\n */\npublic fun IntArray.withIndex(): Iterable<IndexedValue<Int>>
{\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the
original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic

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fun LongArray.withIndex(): Iterable<IndexedValue<Long>> {\n  return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun FloatArray.withIndex():\nIterable<IndexedValue<Float>> {\n  return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun DoubleArray.withIndex(): Iterable<IndexedValue<Double>> {\n  return\nIndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun\nBooleanArray.withIndex(): Iterable<IndexedValue<Boolean>> {\n  return IndexingIterable { iterator()\n}\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun CharArray.withIndex():\nIterable<IndexedValue<Char>> {\n  return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a list containing\nonly distinct elements from the given array.\n * \n * Among equal elements of the given array, only the first one will\nbe present in the resulting list.\n * The elements in the resulting list are in the same order as they were in the source\narray.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun\n<T> Array<out T>.distinct(): List<T> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list\ncontaining only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same\norder as they were in the source array.\n * \n * @sample\nsamples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun ByteArray.distinct():\nList<Byte> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements\nfrom the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source\narray.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun\nShortArray.distinct(): List<Short> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing\nonly distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they\nwere in the source array.\n * \n * @sample\nsamples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun IntArray.distinct():\nList<Int> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from\nthe given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun\nLongArray.distinct(): List<Long> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing\nonly distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they\nwere in the source array.\n * \n * @sample\nsamples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun FloatArray.distinct():\nList<Float> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements\nfrom the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source\narray.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun\nDoubleArray.distinct(): List<Double> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list\ncontaining only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same\norder as they were in the source array.\n * \n * @sample\nsamples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun BooleanArray.distinct():\nList<Boolean> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct\nelements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the\nsource array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic\nfun CharArray.distinct(): List<Char> {\n  return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing\nonly elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * \n * Among elements of the given array with equal keys, only the first one will be present in the resulting list.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample\nsamples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <T, K> Array<out

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T>.distinctBy(selector: (T) -> K): List<T> {\n  val set = HashSet<K>()\n  val list = ArrayList<T>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector]\n * function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Byte>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n * returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n * were in the source array.\n * \n * @sample\n * samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Short>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n * returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n * were in the source array.\n * \n * @sample\n * samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nIntArray.distinctBy(selector: (Int) -> K): List<Int> {\n  val set = HashSet<K>()\n  val list = ArrayList<Int>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given\n * [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source\n * array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline\nfun <K> LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Long>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n * returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n * were in the source array.\n * \n * @sample\n * samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nFloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Float>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n * returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n * were in the source array.\n * \n * @sample\n * samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nDoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Double>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n * returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n * were in the source array.\n * \n * @sample\n * samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nBooleanArray.distinctBy(selector: (Boolean) -> K): List<Boolean> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Boolean>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n  return list}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys\n * returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they\n * were in the source array.\n * \n * @sample\n * samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>\nCharArray.distinctBy(selector: (Char) -> K): List<Char> {\n  val set = HashSet<K>()\n  val list =\n  ArrayList<Char>()\n  for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n      list.add(e)\n  }\n}

```

return list\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun <T> Array<out T>.intersect(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun ShortArray.intersect(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun IntArray.intersect(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun LongArray.intersect(other: Iterable<Long>): Set<Long> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun FloatArray.intersect(other: Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun DoubleArray.intersect(other: Iterable<Double>): Set<Double> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun BooleanArray.intersect(other: Iterable<Boolean>): Set<Boolean> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by both this array and the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \* \n \* To get a set containing all elements that are contained at least in one of these collections use [union].\n \*/\npublic infix fun CharArray.intersect(other: Iterable<Char>): Set<Char> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \*/\npublic infix fun <T> Array<out T>.subtract(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \*/\npublic infix fun ByteArray.subtract(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n \* \n \* The returned set preserves the element iteration order of the original array.\n \*/\npublic infix fun ShortArray.subtract(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/\*\*\n \* Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n \* \n \* The returned set preserves the

element iteration order of the original array.

```

public infix fun IntArray.subtract(other: Iterable<Int>): Set<Int>
{
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

\* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

\* The returned set preserves the element iteration order of the original array.

```

public infix fun LongArray.subtract(other:
Iterable<Long>): Set<Long>
{
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

\* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

\* The returned set preserves the element iteration order of the original array.

```

public infix fun FloatArray.subtract(other: Iterable<Float>): Set<Float>
{
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

\* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

\* The returned set preserves the element iteration order of the original array.

```

public infix fun DoubleArray.subtract(other: Iterable<Double>): Set<Double>
{
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

\* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

\* The returned set preserves the element iteration order of the original array.

```

public infix fun BooleanArray.subtract(other: Iterable<Boolean>):
Set<Boolean>
{
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

\* Returns a set containing all elements that are contained by this array and not contained by the specified collection.

\* The returned set preserves the element iteration order of the original array.

```

public infix fun CharArray.subtract(other: Iterable<Char>): Set<Char>
{
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun <T> Array<out T>.toMutableSet(): MutableSet<T>
{
    return toCollection(LinkedHashSet<T>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun ByteArray.toMutableSet():
MutableSet<Byte>
{
    return toCollection(LinkedHashSet<Byte>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun ShortArray.toMutableSet(): MutableSet<Short>
{
    return toCollection(LinkedHashSet<Short>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun IntArray.toMutableSet(): MutableSet<Int>
{
    return toCollection(LinkedHashSet<Int>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun LongArray.toMutableSet(): MutableSet<Long>
{
    return toCollection(LinkedHashSet<Long>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun FloatArray.toMutableSet(): MutableSet<Float>
{
    return toCollection(LinkedHashSet<Float>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun DoubleArray.toMutableSet(): MutableSet<Double>
{
    return toCollection(LinkedHashSet<Double>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun BooleanArray.toMutableSet(): MutableSet<Boolean>
{
    return toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))
}

```

\* Returns a new [MutableSet] containing all distinct elements from the given array.

\* The returned set preserves the element iteration order of the original array.

```

public fun CharArray.toMutableSet(): MutableSet<Char>
{
    return toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))
}

```

\* Returns a set containing all distinct elements from both collections.

\* The returned set preserves the element iteration order of the original array.

\* Those elements of the [other] collection that are unique are iterated in the end

\* in the order of the [other] collection.

\* To get a set containing all elements that are contained in both collections use

```

[intersect].\n *\npublic infix fun <T> Array<out T>.union(other: Iterable<T>): Set<T> {\n    val set =
this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n *
\n * To get a set containing all elements that are contained in both collections use [intersect].\n *\npublic infix fun
ByteArray.union(other: Iterable<Byte>): Set<Byte> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set
preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are
unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements
that are contained in both collections use [intersect].\n *\npublic infix fun ShortArray.union(other:
Iterable<Short>): Set<Short> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n *
Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element
iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the
end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both
collections use [intersect].\n *\npublic infix fun IntArray.union(other: Iterable<Int>): Set<Int> {\n    val set =
this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n *
\n * To get a set containing all elements that are contained in both collections use [intersect].\n *\npublic infix fun
LongArray.union(other: Iterable<Long>): Set<Long> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set
preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are
unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements
that are contained in both collections use [intersect].\n *\npublic infix fun FloatArray.union(other: Iterable<Float>):
Set<Float> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set
containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order
of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the
order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use
[intersect].\n *\npublic infix fun DoubleArray.union(other: Iterable<Double>): Set<Double> {\n    val set =
this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n *
\n * To get a set containing all elements that are contained in both collections use [intersect].\n *\npublic infix fun
BooleanArray.union(other: Iterable<Boolean>): Set<Boolean> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set
preserves the element iteration order of the original array.\n * Those elements of the [other]
collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set
containing all elements that are contained in both collections use [intersect].\n *\npublic infix fun
CharArray.union(other: Iterable<Char>): Set<Char> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n
return set\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun <T> Array<out T>.all(predicate: (T) ->
Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *\npublic inline fun ByteArray.all(predicate: (Byte) -> Boolean):
Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true`
if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*\npublic inline fun ShortArray.all(predicate: (Short) -> Boolean): Boolean {\n    for (element in this) if
(!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given

```



```

[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun
IntArray.all(predicate: (Int) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n
return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun LongArray.all(predicate: (Long) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if
all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*^\npublic inline fun FloatArray.all(predicate: (Float) -> Boolean): Boolean {\n for (element in this) if
(!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun
DoubleArray.all(predicate: (Double) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun BooleanArray.all(predicate: (Boolean) ->
Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun CharArray.all(predicate: (Char) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if
array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *^\npublic fun
<T> Array<out T>.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *^\npublic fun ByteArray.any():
Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun ShortArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun IntArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun LongArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun FloatArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun DoubleArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun BooleanArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun CharArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun <T> Array<out
T>.any(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ByteArray.any(predicate:
(Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ShortArray.any(predicate:
(Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun IntArray.any(predicate: (Int) -
> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n *
Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun LongArray.any(predicate:
(Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return

```

```

false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun FloatArray.any(predicate:
(Float) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun DoubleArray.any(predicate:
(Double) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun BooleanArray.any(predicate:
(Boolean) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun CharArray.any(predicate:
(Char) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T> Array<out T>.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the
number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the
number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.count(): Int {\n    return size\n}\n\n/**\n * Returns
the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n */\npublic inline fun
<T> Array<out T>.count(predicate: (T) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n */\npublic inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int {\n    var count = 0\n
for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n * \n */\npublic inline fun ShortArray.count(predicate: (Short) -> Boolean): Int {\n
var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n * \n */\npublic inline fun IntArray.count(predicate: (Int) ->
Boolean): Int {\n    var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n */\npublic inline fun
LongArray.count(predicate: (Long) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n */\npublic inline fun FloatArray.count(predicate: (Float) -> Boolean): Int {\n    var count = 0\n
for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n * \n */\npublic inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int {\n
var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n * \n */\npublic inline fun BooleanArray.count(predicate: (Boolean)
-> Boolean): Int {\n    var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n */\npublic inline fun
CharArray.count(predicate: (Char) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator
value and an element, and calculates the next accumulator value.\n * \n */\npublic inline fun <T, R> Array<out

```

```

T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
IntArray.fold(initial: R, operation: (acc: R, Int) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *
\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes
current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R>
DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that
takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun
<R> BooleanArray.fold(initial: R, operation: (acc: R, Boolean) -> R): R {\n  var accumulator = initial\n  for
(element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\n
*\npublic inline fun <R> CharArray.fold(initial: R, operation: (acc: R, Char) -> R): R {\n  var accumulator =
initial\n  for (element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator
value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array
is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and
the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out
T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n  var index = 0\n  var accumulator =
initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return

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accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*\npublic inline fun <R> ByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): R {\n  var
index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator,
element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n
*\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n *\npublic inline fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R
{\n  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++,
accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right\n * to current accumulator value and each element with its index in the
original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n *\npublic inline fun <R> IntArray.foldIndexed(initial: R, operation: (index: Int, acc: R,
Int) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator =
operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its
index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and
calculates the next accumulator value.\n *\npublic inline fun <R> LongArray.foldIndexed(initial: R, operation:
(index: Int, acc: R, Long) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in this)
accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n
*\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n *\npublic inline fun <R> FloatArray.foldIndexed(initial: R,
operation: (index: Int, acc: R, Float) -> R): R {\n  var index = 0\n  var accumulator = initial\n  for (element in
this) accumulator = operation(index++, accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and
each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n
*\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n *\npublic inline fun <R>
DoubleArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*\npublic inline fun <R> BooleanArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): R {\n
  var index = 0\n  var accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator,
element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n
*\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n *\npublic inline fun <R> CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R

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and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharArray.foldRight(initial: R, operation: (Char, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator =
initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\npublic inline fun <T, R> Array<out T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R
{\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator =
operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the
original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n
* \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator
value, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRightIndexed(initial: R,
operation: (index: Int, Byte, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while
(index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\npublic inline fun <R> ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {\n
var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index,
get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param
[operation] function that takes the index of an element, the element itself\n * and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldRightIndexed(initial: R, operation:
(index: Int, Int, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array
is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current
accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.foldRightIndexed(initial: R, operation: (index: Int, Long, acc: R) -> R): R {\n  var index = lastIndex\n
var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n
    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
* \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n */\npublic inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) ->
R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator =
operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the
original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n
* \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator
value, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldRightIndexed(initial:
R, operation: (index: Int, Double, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n
while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return

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accumulator\n}\n\n/\*\*\n \* Accumulates value starting with [initial] value and applying [operation] from right to left\n \* to each element with its index in the original array and current accumulator value.\n \* \n \* Returns the specified [initial] value if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, the element itself\n \* and current accumulator value, and calculates the next accumulator value.\n

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*/\npublic inline fun <R> BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun <T> Array<out T>.forEach(action: (T) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun ByteArray.forEach(action: (Byte) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun ShortArray.forEach(action: (Short) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun IntArray.forEach(action: (Int) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun LongArray.forEach(action: (Long) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun FloatArray.forEach(action: (Float) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun DoubleArray.forEach(action: (Double) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun BooleanArray.forEach(action: (Boolean) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun CharArray.forEach(action: (Char) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun ByteArray.forEachIndexed(action: (index: Int, Byte) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun IntArray.forEachIndexed(action: (index: Int, Int) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun FloatArray.forEachIndexed(action: (index: Int, Float) -> Unit): Unit {\n    var index = 0\n    for (item in this)

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action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit):
Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on
each element, providing sequential index with the element.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n */\npublic inline fun
BooleanArray.forEachIndexed(action: (index: Int, Boolean) -> Unit): Unit {\n    var index = 0\n    for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n */\npublic inline fun CharArray.forEachIndexed(action: (index: Int, Char) -> Unit): Unit
{\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Double>.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Array<out Float>.max(): Float? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Array<out T>.max(): T? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun ByteArray.max(): Byte? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.max(): Short? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun IntArray.max(): Int? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun LongArray.max(): Long? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun FloatArray.max(): Float? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxOrNull instead.", ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.",
ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun CharArray.max(): Char? {\n    return maxOrNull()\n}\n\n@Deprecated("Use
maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxBy(selector: (T) -> R): T? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull
instead.", ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ByteArray.maxBy(selector:
(Byte) -> R): Byte? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ShortArray.maxBy(selector: (Short) -> R):
Short? {\n    return maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> IntArray.maxBy(selector: (Int) -> R): Int?

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{\n return maxByOrNull(selector)\n}\n\n@Deprecated(\`Use maxByOrNull instead.\`,
ReplaceWith(\`this.maxByOrNull(selector)\`))\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)\npublic inline fun <R : Comparable<R>> LongArray.maxBy(selector: (Long) -> R):
Long? {\n return maxByOrNull(selector)\n}\n\n@Deprecated(\`Use maxByOrNull instead.\`,
ReplaceWith(\`this.maxByOrNull(selector)\`))\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)\npublic inline fun <R : Comparable<R>> FloatArray.maxBy(selector: (Float) -> R):
Float? {\n return maxByOrNull(selector)\n}\n\n@Deprecated(\`Use maxByOrNull instead.\`,
ReplaceWith(\`this.maxByOrNull(selector)\`))\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)\npublic inline fun <R : Comparable<R>> DoubleArray.maxBy(selector: (Double) ->
R): Double? {\n return maxByOrNull(selector)\n}\n\n@Deprecated(\`Use maxByOrNull instead.\`,
ReplaceWith(\`this.maxByOrNull(selector)\`))\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)\npublic inline fun <R : Comparable<R>> BooleanArray.maxBy(selector: (Boolean) -
> R): Boolean? {\n return maxByOrNull(selector)\n}\n\n@Deprecated(\`Use maxByOrNull instead.\`,
ReplaceWith(\`this.maxByOrNull(selector)\`))\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)\npublic inline fun <R : Comparable<R>> CharArray.maxBy(selector: (Char) -> R):
Char? {\n return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n\n@SinceKotlin(`1.4`)\npublic inline fun <T, R :
Comparable<R>> Array<out T>.maxByOrNull(selector: (T) -> R): T? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n\n@SinceKotlin(`1.4`)\npublic inline fun <R :
Comparable<R>> ByteArray.maxByOrNull(selector: (Byte) -> R): Byte? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n\n@SinceKotlin(`1.4`)\npublic inline fun <R :
Comparable<R>> ShortArray.maxByOrNull(selector: (Short) -> R): Short? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n\n@SinceKotlin(`1.4`)\npublic inline fun <R :
Comparable<R>> IntArray.maxByOrNull(selector: (Int) -> R): Int? {\n if (isEmpty()) return null\n var maxElem
= this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n\n@SinceKotlin(`1.4`)\npublic inline fun <R :
Comparable<R>> LongArray.maxByOrNull(selector: (Long) -> R): Long? {\n if (isEmpty()) return null\n var
maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxVale =
selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxVale < v)
{\n maxElem = e\n maxVale = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n\n@SinceKotlin(`1.4`)\npublic inline fun <R :

```

```

Comparable<R>> FloatArray.maxByOrNull(selector: (Float) -> R): Float? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}
/** Returns the first element yielding the largest value of the given function or `null` if there are no elements.
 *
 * @sample samples.collections.Collections.Aggregates.maxByOrNull
 */
@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> DoubleArray.maxByOrNull(selector: (Double) -> R): Double? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}
/** Returns the first element yielding the largest value of the given function or `null` if there are no elements.
 *
 * @sample samples.collections.Collections.Aggregates.maxByOrNull
 */
@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> BooleanArray.maxByOrNull(selector: (Boolean) -> R): Boolean? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}
/** Returns the first element yielding the largest value of the given function or `null` if there are no elements.
 *
 * @sample samples.collections.Collections.Aggregates.maxByOrNull
 */
@SinceKotlin("1.4")
public inline fun <R : Comparable<R>> CharArray.maxByOrNull(selector: (Char) -> R): Char? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}
/** Returns the largest value among all values produced by [selector] function applied to each element in the array.
 *
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 *
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.maxOf(selector: (T) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
/** Returns the largest value among all values produced by [selector] function applied to each element in the array.
 *
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 *
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun ByteArray.maxOf(selector: (Byte) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
/** Returns the largest value among all values produced by [selector] function applied to each element in the array.
 *
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 *
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun ShortArray.maxOf(selector: (Short) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
/** Returns the largest value among all values produced by [selector] function applied to each element in the array.
 *
 * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
 *
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun IntArray.maxOf(selector: (Int) -> Double):

```

```

Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun LongArray.maxOf(selector: (Long) ->
Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun FloatArray.maxOf(selector: (Float) ->
Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun DoubleArray.maxOf(selector: (Double) ->
Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun BooleanArray.maxOf(selector: (Boolean) ->
Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharArray.maxOf(selector: (Char) ->
Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.maxOf(selector: (T) ->
Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return
    maxValue
}

/**
 * Returns the largest value among all values produced by [selector] function
 * applied to each element in the array.
 * If any of values produced by [selector] function is `NaN`, the returned result is
 * `NaN`.
 * @throws NoSuchElementException if the array is empty.
 */
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution

```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Float):
Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in
1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) ->
Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i
in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Float):
Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i in
1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) ->
Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i
in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) ->
Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i
in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) ->
Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i
in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) ->
Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i
in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxOf(selector: (T) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ByteArray.maxOf(selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.maxOf(selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.maxOf(selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
LongArray.maxOf(selector: (Long) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
FloatArray.maxOf(selector: (Float) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.maxOf(selector: (Double) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOf(selector: (Boolean) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOf(selector: (Char) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n
maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOfOrNull(selector:
(T) -> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOfOrNull(selector: (Byte) ->
Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOfOrNull(selector: (Short) -
> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex)
{\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOfOrNull(selector: (Int) ->
Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is

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`NaN`.
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOrNull(selector: (Long) -
> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex)
{\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOrNull(selector: (Float) -
> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex)
{\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOrNull(selector:
(Double) -> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOrNull(selector:
(Boolean) -> Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return
maxValue}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOrNull(selector: (Char) ->
Double): Double? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOrNull(selector:
(T) -> Float): Float? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex)
{\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOrNull(selector: (Byte) ->
Float): Float? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n
val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`

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if there are no elements.\n \* \n \* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOrNull(selector: (Short) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOrNull(selector: (Int) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOrNull(selector: (Long) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOrNull(selector: (Float) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOrNull(selector: (Double) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOrNull(selector: (Boolean) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOrNull(selector: (Char) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns
```



the largest value among all values produced by [selector] function\n \* applied to each element in the array or `null` if there are no elements.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out T>.maxOrNull(selector: (T) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nIntArray.maxOrNull(selector: (Int) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nLongArray.maxOrNull(selector: (Long) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nFloatArray.maxOrNull(selector: (Float) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nDoubleArray.maxOrNull(selector: (Double) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>\nBooleanArray.maxOrNull(selector: (Boolean) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
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maxValue = v\n    }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var maxValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (maxValue < v) {\n
maxValue = v\n    }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.maxOfWith(comparator:
Comparator<in R>, selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.maxOfWith(comparator:
Comparator<in R>, selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.maxOfWith(comparator:
Comparator<in R>, selector: (Int) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue
= selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.maxOfWith(comparator:
Comparator<in R>, selector: (Long) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.maxOfWith(comparator:
Comparator<in R>, selector: (Float) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var

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maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <R> DoubleArray.maxOfWith(comparator:
Comparator<in R>, selector: (Double) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
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*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <R> BooleanArray.maxOfWith(comparator:
Comparator<in R>, selector: (Boolean) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <R> CharArray.maxOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <T, R> Array<out
T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n  if (isEmpty()) return null\n
var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <R>
ByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n  if (isEmpty()) return
null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <R>
ShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n * \n * @SinceKotlin("1.4")\n * \n * @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n * \n * @OverloadResolution
ByLambdaReturnType\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun <R>

```

```

IntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n  if (isEmpty()) return
null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
BooleanArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n  if (isEmpty()) return
null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n      maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*\n@SinceKotlin("1.4")\npublic fun Array<out Double>.maxOrNull(): Double? {\n  if (isEmpty()) return null\n
var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n  return
max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN`
returns `NaN`.\n
*\n@SinceKotlin("1.4")\npublic fun Array<out Float>.maxOrNull(): Float? {\n  if (isEmpty())
return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    max = maxOf(max, e)\n  }\n
return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Array<out T>.maxOrNull(): T? {\n  if (isEmpty())
return null\n  var max = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (max < e) max = e\n  }\n
return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n

```

```

*^@SinceKotlin("1.4")\npublic fun ByteArray.maxOrNull(): Byte? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n*^@SinceKotlin("1.4")\npublic fun ShortArray.maxOrNull(): Short? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n*^@SinceKotlin("1.4")\npublic fun IntArray.maxOrNull(): Int? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n*^@SinceKotlin("1.4")\npublic fun LongArray.maxOrNull(): Long? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * * If any of elements is `NaN` returns `NaN`.\n */\n*^@SinceKotlin("1.4")\npublic fun FloatArray.maxOrNull(): Float? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * * If any of elements is `NaN` returns `NaN`.\n */\n*^@SinceKotlin("1.4")\npublic fun DoubleArray.maxOrNull(): Double? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n*^@SinceKotlin("1.4")\npublic fun CharArray.maxOrNull(): Char? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun <T> Array<out T>.maxWith(comparator: Comparator<in T>): T? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun ByteArray.maxWith(comparator: Comparator<in Byte>): Byte? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun ShortArray.maxWith(comparator: Comparator<in Short>): Short? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun IntArray.maxWith(comparator: Comparator<in Int>): Int? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun LongArray.maxWith(comparator: Comparator<in Long>): Long? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun FloatArray.maxWith(comparator: Comparator<in Float>): Float? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.maxWith(comparator: Comparator<in Double>): Double? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun BooleanArray.maxWith(comparator: Comparator<in Boolean>): Boolean? {\n    return maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic fun CharArray.maxWith(comparator: Comparator<in Char>): Char? {\n    return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n*^@SinceKotlin("1.4")\npublic fun <T> Array<out

```

```

T>.maxWithOrNull(comparator: Comparator<in T>): T? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun ByteArray.maxWithOrNull(comparator:
Comparator<in Byte>): Byte? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun ShortArray.maxWithOrNull(comparator: Comparator<in Short>): Short? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun IntArray.maxWithOrNull(comparator: Comparator<in Int>): Int? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun LongArray.maxWithOrNull(comparator: Comparator<in Long>): Long? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun FloatArray.maxWithOrNull(comparator: Comparator<in Float>): Float? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun DoubleArray.maxWithOrNull(comparator: Comparator<in Double>):
Double? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun BooleanArray.maxWithOrNull(comparator: Comparator<in Boolean>):
Boolean? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

\* Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```

* Kotlin("1.4")
public fun CharArray.maxWithOrNull(comparator: Comparator<in Char>): Char? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}

```

**Deprecated** ("Use minOrNull instead.", ReplaceWith("this.minOrNull()"))

```

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
public fun Array<out Double>.min(): Double? {
    return minOrNull()
}

```

**Deprecated** ("Use minOrNull instead.", ReplaceWith("this.minOrNull()"))

```

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
public fun Array<out Float>.min(): Float? {
    return minOrNull()
}

```

**Deprecated** ("Use minOrNull instead.", ReplaceWith("this.minOrNull()"))

```

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
public fun <T : Comparable<T>> Array<out T>.min(): T? {
    return minOrNull()
}

```

**Deprecated** ("Use minOrNull()")

```

@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")
public fun ByteArray.min(): Byte? {
    return minOrNull()
}

```

**Deprecated** ("Use minOrNull instead.", ReplaceWith("this.minOrNull()"))

```

@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")
public fun ShortArray.min(): Short? {
    return minOrNull()
}

```

**Deprecated** ("Use minOrNull instead.",

```

ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun IntArray.min(): Int? {\n    return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun LongArray.min(): Long? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun FloatArray.min(): Float? {\n    return minOrNull()\n}\n\n@Deprecated("Use
minOrNull instead.", ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.min(): Double? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.",
ReplaceWith("this.minOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun CharArray.min(): Char? {\n    return minOrNull()\n}\n\n@Deprecated("Use
minByOrNull instead.", ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince =
"1.4", errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Array<out
T>.minBy(selector: (T) -> R): T? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull
instead.", ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ByteArray.minBy(selector:
(Byte) -> R): Byte? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> ShortArray.minBy(selector: (Short) -> R):
Short? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> IntArray.minBy(selector: (Int) -> R): Int?
{\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> LongArray.minBy(selector: (Long) -> R):
Long? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> FloatArray.minBy(selector: (Float) -> R):
Float? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> DoubleArray.minBy(selector: (Double) ->
R): Double? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> BooleanArray.minBy(selector: (Boolean) -
> R): Boolean? {\n    return minByOrNull(selector)\n}\n\n@Deprecated("Use minByOrNull instead.",
ReplaceWith("this.minByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> CharArray.minBy(selector: (Char) -> R):
Char? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * \n * public inline fun <T, R :
Comparable<R>> Array<out T>.minByOrNull(selector: (T) -> R): T? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * \n * public inline fun <R :
Comparable<R>> ByteArray.minByOrNull(selector: (Byte) -> R): Byte? {\n    if (isEmpty()) return null\n    var

```

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minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun <R :
Comparable<R>> ShortArray.minByOrNull(selector: (Short) -> R): Short? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun <R :
Comparable<R>> IntArray.minByOrNull(selector: (Int) -> R): Int? {\n    if (isEmpty()) return null\n    var minElem
= this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
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samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun <R :
Comparable<R>> LongArray.minByOrNull(selector: (Long) -> R): Long? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun <R :
Comparable<R>> FloatArray.minByOrNull(selector: (Float) -> R): Float? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun <R :
Comparable<R>> DoubleArray.minByOrNull(selector: (Double) -> R): Double? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
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samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun <R :
Comparable<R>> BooleanArray.minByOrNull(selector: (Boolean) -> R): Boolean? {\n    if (isEmpty()) return
null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var
minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if
(minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n * @SinceKotlin("1.4")\n * public inline fun
<R : Comparable<R>> CharArray.minByOrNull(selector: (Char) -> R): Char? {\n    if (isEmpty()) return null\n    var
minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue =
selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v)
{\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the smallest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * \n * @throws
NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOf(selector: (T) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOf(selector: (Byte) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOf(selector: (Short) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Double):
Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOf(selector: (Long) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOf(selector: (Double) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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`NaN`.n * .n * @throws NoSuchElementException if the array is empty.n
*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun BooleanArray.minOf(selector: (Boolean) ->
Double): Double {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for
(i in 1..lastIndex) {n val v = selector(this[i])n minValue = minOf(minValue, v)n }n return
minValue.n}n/n/**n * Returns the smallest value among all values produced by [selector] functionn * applied to
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*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun CharArray.minOf(selector: (Char) ->
Double): Double {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for
(i in 1..lastIndex) {n val v = selector(this[i])n minValue = minOf(minValue, v)n }n return
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*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun <T> Array<out T>.minOf(selector: (T) ->
Float): Float {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for (i in
1..lastIndex) {n val v = selector(this[i])n minValue = minOf(minValue, v)n }n return
minValue.n}n/n/**n * Returns the smallest value among all values produced by [selector] functionn * applied to
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*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun ByteArray.minOf(selector: (Byte) -> Float):
Float {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for (i in
1..lastIndex) {n val v = selector(this[i])n minValue = minOf(minValue, v)n }n return
minValue.n}n/n/**n * Returns the smallest value among all values produced by [selector] functionn * applied to
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Float): Float {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for (i in
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*/n@SinceKotlin("1.4")n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)n@OverloadResolution
ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun IntArray.minOf(selector: (Int) -> Float):
Float {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for (i in
1..lastIndex) {n val v = selector(this[i])n minValue = minOf(minValue, v)n }n return
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ByLambdaReturnTypen@kotlin.internal.InlineOnlynpublic inline fun LongArray.minOf(selector: (Long) ->
Float): Float {n if (isEmpty()) throw NoSuchElementException()n var minValue = selector(this[0])n for (i in
1..lastIndex) {n val v = selector(this[i])n minValue = minOf(minValue, v)n }n return
minValue.n}n/n/**n * Returns the smallest value among all values produced by [selector] functionn * applied to

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each element in the array.\n \* \n \* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n \* \n \* @throws NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOf(selector: (Float) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOf(selector: (Double) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOf(selector: (Boolean) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOf(selector: (Char) -> Float):
Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.minOf(selector: (T) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
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ByteArray.minOf(selector: (Byte) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue
= selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
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ShortArray.minOf(selector: (Short) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values

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produced by [selector] function\n * applied to each element in the array.\n * \n * @throws
NoSuchElementException if the array is empty.\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.minOf(selector: (Int) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
LongArray.minOf(selector: (Long) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
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FloatArray.minOf(selector: (Float) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n } \n } \n return minValue}\n\n/**\n * Returns the smallest value among all values
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.minOf(selector: (Double) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n } \n } \n return minValue}\n\n/**\n * Returns the smallest value among all values
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BooleanArray.minOf(selector: (Boolean) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOfOrNull(selector:
(T) -> Double): Double? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in
1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n } \n return

```

minValue\n}\n\n/\*\*\n \* Returns the smallest value among all values produced by [selector] function\n \* applied to each element in the array or `null` if there are no elements.\n \* \n \* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOrNull(selector: (Byte) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOrNull(selector: (Short) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOrNull(selector: (Int) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOrNull(selector: (Long) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOrNull(selector: (Float) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOrNull(selector: (Double) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOrNull(selector: (Boolean) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
```

```

1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) ->
Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns
the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.minOfOrNull(selector:
(T) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array
or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.minOfOrNull(selector: (Byte) ->
Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.minOfOrNull(selector: (Short) -
> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOfOrNull(selector: (Int) ->
Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOfOrNull(selector: (Long) -
> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n
    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n } \n return minValue\n}\n\n/**\n * Returns the
smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if
there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is
`NaN`.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.minOfOrNull(selector: (Float) ->

```

```

Float): Float? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.  
\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun DoubleArray.minOrNull(selector:
(Double) -> Float): Float? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in
1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return
minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.  
\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun BooleanArray.minOrNull(selector:
(Boolean) -> Float): Float? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in
1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return
minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.  
\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun CharArray.minOrNull(selector: (Char) ->
Float): Float? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>> Array<out
T>.minOrNull(selector: (T) -> R): R? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
ByteArray.minOrNull(selector: (Byte) -> R): R? {
    if (isEmpty()) return null
    var minValue =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
ShortArray.minOrNull(selector: (Short) -> R): R? {
    if (isEmpty()) return null
    var minValue =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```

* Since Kotlin("1.4")
* OptIn(kotlin.experimental.ExperimentalTypeInference::class)
* OverloadResolutionByLambdaReturnType
* kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>>
IntArray.minOrNull(selector: (Int) -> R): R? {
    if (isEmpty()) return null
    var minValue =
selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

```

\* Returns the smallest value among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.

```

by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
LongArray.minOfOrNull(selector: (Long) -> R): R? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
FloatArray.minOfOrNull(selector: (Float) -> R): R? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.minOfOrNull(selector: (Double) -> R): R? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.minOfOrNull(selector: (Boolean) -> R): R? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.minOfOrNull(selector: (Char) -> R): R? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWith(comparator:
Comparator<in R>, selector: (Byte) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```



```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWith(comparator:
Comparator<in R>, selector: (Short) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.minOfWith(comparator:
Comparator<in R>, selector: (Int) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var minValue
= selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (comparator.compare(minValue,
v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value
according to the provided [comparator]\n * among all values produced by [selector] function applied to each
element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n *\n *\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.minOfWith(comparator:
Comparator<in R>, selector: (Long) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.minOfWith(comparator:
Comparator<in R>, selector: (Float) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.minOfWith(comparator:
Comparator<in R>, selector: (Double) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.minOfWith(comparator:
Comparator<in R>, selector: (Boolean) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n *\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n

```

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n  if (isEmpty()) return null\n
var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
IntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/*\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]

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function applied to each element in the array or `null` if there are no elements.
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun <R>
BooleanArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n/n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.
*/@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n if (isEmpty()) return
null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n/n/**\n *
Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/@SinceKotlin("1.4")\npublic fun Array<out Double>.minOrNull(): Double? {\n if (isEmpty()) return null\n
var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min, e)\n }\n return
min\n}\n/n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n
*/@SinceKotlin("1.4")\npublic fun Array<out Float>.minOrNull(): Float? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min,
e)\n }\n return min\n}\n/n/**\n * Returns the smallest element or `null` if there are no elements.
*/@SinceKotlin("1.4")\npublic fun <T : Comparable<T>> Array<out T>.minOrNull(): T? {\n if (isEmpty())
return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n
return min\n}\n/n/**\n * Returns the smallest element or `null` if there are no elements.
*/@SinceKotlin("1.4")\npublic fun ByteArray.minOrNull(): Byte? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n/n/**\n *
Returns the smallest element or `null` if there are no elements.\n
*/@SinceKotlin("1.4")\npublic fun ShortArray.minOrNull(): Short? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n/n/**\n *
Returns the smallest element or `null` if there are no elements.\n
*/@SinceKotlin("1.4")\npublic fun IntArray.minOrNull(): Int? {\n if (isEmpty())
return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n
return min\n}\n/n/**\n * Returns the smallest element or `null` if there are no elements.
*/@SinceKotlin("1.4")\npublic fun LongArray.minOrNull(): Long? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n/n/**\n *
Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/@SinceKotlin("1.4")\npublic fun FloatArray.minOrNull(): Float? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min, e)\n }\n return min\n}\n/n/**\n *
Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/@SinceKotlin("1.4")\npublic fun DoubleArray.minOrNull(): Double? {\n if (isEmpty()) return null\n var
min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min, e)\n }\n return
min\n}\n/n/**\n * Returns the smallest element or `null` if there are no elements.
*/@SinceKotlin("1.4")\npublic fun CharArray.minOrNull(): Char? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return
min\n}\n/n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun <T> Array<out T>.minWith(comparator: Comparator<in T>): T? {\n
return minWithOrNull(comparator)\n}\n/n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun ByteArray.minWith(comparator: Comparator<in Byte>): Byte? {\n

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return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun ShortArray.minWith(comparator: Comparator<in Short>): Short? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun IntArray.minWith(comparator: Comparator<in Int>): Int? {\n  return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun LongArray.minWith(comparator: Comparator<in Long>): Long? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun FloatArray.minWith(comparator: Comparator<in Float>): Float? {\n
return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun DoubleArray.minWith(comparator: Comparator<in Double>): Double?
{\n  return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun BooleanArray.minWith(comparator: Comparator<in Boolean>):
Boolean? {\n  return minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun CharArray.minWith(comparator: Comparator<in Char>): Char? {\n
return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to
the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun <T> Array<out
T>.minWithOrNull(comparator: Comparator<in T>): T? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for
(i in 1..lastIndex) {\n    val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n  }\n  return
min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or
`null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun ByteArray.minWithOrNull(comparator:
Comparator<in Byte>): Byte? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n
val e = this[i]\n    if (comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\npublic fun ShortArray.minWithOrNull(comparator: Comparator<in Short>): Short? {\n
if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun IntArray.minWithOrNull(comparator: Comparator<in Int>): Int? {\n
if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun LongArray.minWithOrNull(comparator: Comparator<in Long>): Long? {\n
if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun FloatArray.minWithOrNull(comparator: Comparator<in Float>): Float? {\n
if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if
(comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.4")\npublic fun DoubleArray.minWithOrNull(comparator: Comparator<in Double>):
Double? {\n  if (isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if

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(comparator.compare(min, e) > 0) min = e\n } \n return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun BooleanArray.minWithOrNull(comparator: Comparator<in Boolean>):
Boolean? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n
if (comparator.compare(min, e) > 0) min = e\n } \n return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\npublic fun CharArray.minWithOrNull(comparator: Comparator<in Char>): Char? {\n
if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n } \n return min\n}\n\n/**\n * Returns `true` if the array has no
elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Array<out
T>.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n */\npublic fun ByteArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun ShortArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun IntArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun LongArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun FloatArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun DoubleArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun BooleanArray.none(): Boolean {\n return
isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T> Array<out
T>.none(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun ByteArray.none(predicate:
(Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun ShortArray.none(predicate:
(Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun IntArray.none(predicate: (Int)
-> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/**\n *
Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun LongArray.none(predicate:
(Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun FloatArray.none(predicate:
(Float) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun DoubleArray.none(predicate:
(Double) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample

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samples.collections.Collections.Aggregates.noneWithPredicate\n * public inline fun
BooleanArray.none(predicate: (Boolean) -> Boolean): Boolean {\n  for (element in this) if (predicate(element))
return false\n  return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * public inline fun CharArray.none(predicate:
(Char) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return false\n  return
true\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun <T> Array<out T>.onEach(action: (T) ->
Unit): Array<out T> {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun ByteArray.onEach(action: (Byte) ->
Unit): ByteArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun ShortArray.onEach(action: (Short) ->
Unit): ShortArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun IntArray.onEach(action: (Int) -> Unit):
IntArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on
each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun LongArray.onEach(action: (Long) ->
Unit): LongArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun FloatArray.onEach(action: (Float) ->
Unit): FloatArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun DoubleArray.onEach(action: (Double) ->
Unit): DoubleArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun BooleanArray.onEach(action: (Boolean)
-> Unit): BooleanArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element and returns the array itself afterwards.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun CharArray.onEach(action: (Char) ->
Unit): CharArray {\n  return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given
[action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n *
@param [action] function that takes the index of an element and the element itself\n * and performs the action on
the element.\n * \n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun <T> Array<out
T>.onEachIndexed(action: (index: Int, T) -> Unit): Array<out T> {\n  return apply { forEachIndexed(action)
}\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and
returns the array itself afterwards.\n * \n * @param [action] function that takes the index of an element and the element
itself\n * and performs the action on the element.\n * \n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n *
public inline fun ByteArray.onEachIndexed(action: (index: Int, Byte) -> Unit): ByteArray {\n  return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * \n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun ShortArray.onEachIndexed(action:
(index: Int, Short) -> Unit): ShortArray {\n  return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the
given [action] on each element, providing sequential index with the element,\n * and returns the array itself
afterwards.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs
the action on the element.\n * \n * @SinceKotlin("1.4")\n * @kotlin.internal.InlineOnly\n * public inline fun

```

```

IntArray.forEachIndexed(action: (index: Int, Int) -> Unit): IntArray {
    return apply { forEachIndexed(action) }
}

```

Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

@param [action] function that takes the index of an element and the element itself and performs the action on the element.

```

*@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): LongArray {
    return apply { forEachIndexed(action) }
}

```

Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

@param [action] function that takes the index of an element and the element itself and performs the action on the element.

```

*@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun FloatArray.forEachIndexed(action: (index: Int, Float) -> Unit): FloatArray {
    return apply { forEachIndexed(action) }
}

```

Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

@param [action] function that takes the index of an element and the element itself and performs the action on the element.

```

*@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit): DoubleArray {
    return apply { forEachIndexed(action) }
}

```

Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

@param [action] function that takes the index of an element and the element itself and performs the action on the element.

```

*@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun BooleanArray.forEachIndexed(action: (index: Int, Boolean) -> Unit): BooleanArray {
    return apply { forEachIndexed(action) }
}

```

Performs the given [action] on each element, providing sequential index with the element, and returns the array itself afterwards.

@param [action] function that takes the index of an element and the element itself and performs the action on the element.

```

*@SinceKotlin("1.4")@kotlin.internal.InlineOnly
public inline fun CharArray.reduce(operation: (index: Int, Char) -> Unit): CharArray {
    return apply {
        forEachIndexed(action)
    }
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

```

*public inline fun <S, T : S> Array<out T>.reduce(operation: (acc: S, T) -> S): S {
    if (isEmpty()) throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator: S = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

```

*public inline fun ByteArray.reduce(operation: (acc: Byte, Byte) -> Byte): Byte {
    if (isEmpty()) throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

```

*public inline fun ShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {
    if (isEmpty()) throw
    UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first element and applying [operation] from left to right to current

accumulator value and each element.  
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 @param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.  
 @sample samples.collections.Collections.Aggregates.reduce  
 public inline fun IntArray.reduce(operation: (acc: Int, Int) -> Int): Int {  
   if (isEmpty()) throw  
   UnsupportedOperationException("Empty array can't be reduced.")  
   var accumulator = this[0]  
   for (index in 1..lastIndex) {  
     accumulator = operation(accumulator, this[index])  
   }  
   return accumulator  
 }  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.  
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 @param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.  
 @sample samples.collections.Collections.Aggregates.reduce  
 public inline fun LongArray.reduce(operation: (acc: Long, Long) -> Long): Long {  
   if (isEmpty()) throw  
   UnsupportedOperationException("Empty array can't be reduced.")  
   var accumulator = this[0]  
   for (index in 1..lastIndex) {  
     accumulator = operation(accumulator, this[index])  
   }  
   return accumulator  
 }  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.  
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 @param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.  
 @sample samples.collections.Collections.Aggregates.reduce  
 public inline fun FloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {  
   if (isEmpty()) throw  
   UnsupportedOperationException("Empty array can't be reduced.")  
   var accumulator = this[0]  
   for (index in 1..lastIndex) {  
     accumulator = operation(accumulator, this[index])  
   }  
   return accumulator  
 }  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.  
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 @param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.  
 @sample samples.collections.Collections.Aggregates.reduce  
 public inline fun DoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {  
   if (isEmpty()) throw  
   UnsupportedOperationException("Empty array can't be reduced.")  
   var accumulator = this[0]  
   for (index in 1..lastIndex) {  
     accumulator = operation(accumulator, this[index])  
   }  
   return accumulator  
 }  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.  
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 @param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.  
 @sample samples.collections.Collections.Aggregates.reduce  
 public inline fun BooleanArray.reduce(operation: (acc: Boolean, Boolean) -> Boolean): Boolean {  
   if (isEmpty()) throw  
   UnsupportedOperationException("Empty array can't be reduced.")  
   var accumulator = this[0]  
   for (index in 1..lastIndex) {  
     accumulator = operation(accumulator, this[index])  
   }  
   return accumulator  
 }  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.  
 Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 @param [operation] function that takes current accumulator value and an element and calculates the next accumulator value.  
 @sample samples.collections.Collections.Aggregates.reduce  
 public inline fun CharArray.reduce(operation: (acc: Char, Char) -> Char): Char {  
   if (isEmpty()) throw  
   UnsupportedOperationException("Empty array can't be reduced.")  
   var accumulator = this[0]  
   for (index in 1..lastIndex) {  
     accumulator = operation(accumulator, this[index])  
   }  
   return accumulator  
 }  
 Accumulates value starting with the first element and applying [operation] from left to right to current



accumulator value and each element with its index in the original array. \n \* \n \* Throws an exception if this array is empty. If the array can be empty in an expected way, \n \* please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n \* and calculates the next accumulator value. \n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \* \n \* public inline fun <S, T : S> Array<out T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array. \n \* \n \* Throws an exception if this array is empty. If the array can be empty in an expected way, \n \* please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n \* and calculates the next accumulator value. \n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \* \n \* public inline fun ByteArray.reduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array. \n \* \n \* Throws an exception if this array is empty. If the array can be empty in an expected way, \n \* please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n \* and calculates the next accumulator value. \n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \* \n \* public inline fun ShortArray.reduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): Short {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array. \n \* \n \* Throws an exception if this array is empty. If the array can be empty in an expected way, \n \* please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n \* and calculates the next accumulator value. \n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \* \n \* public inline fun IntArray.reduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): Int {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array. \n \* \n \* Throws an exception if this array is empty. If the array can be empty in an expected way, \n \* please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself, \n \* and calculates the next accumulator value. \n \* \n \* @sample samples.collections.Collections.Aggregates.reduce\n \* \n \* public inline fun LongArray.reduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): Long {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array. \n \* \n \* Throws an exception if this array is empty. If the array can be empty in an expected way, \n \* please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty. \n \* \n \* @param [operation] function that takes the index of an

element, current accumulator value and the element itself,  
`@sample samples.collections.Collections.Aggregates.reduce`  
`FloatArray.reduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): Float` {  
`if (isEmpty())` throw `UnsupportedOperationException("Empty array can't be reduced.")`  
`var accumulator = this[0]`  
`for (index in 1..lastIndex) {`  
`accumulator = operation(index, accumulator, this[index])`  
`}` return `accumulator`  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceIndexedOrNull` instead. It returns `null` when its receiver is empty.  
`@param [operation]` function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.  
`@sample samples.collections.Collections.Aggregates.reduce`  
`DoubleArray.reduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): Double` {  
`if (isEmpty())` throw `UnsupportedOperationException("Empty array can't be reduced.")`  
`var accumulator = this[0]`  
`for (index in 1..lastIndex) {`  
`accumulator = operation(index, accumulator, this[index])`  
`}` return `accumulator`  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceIndexedOrNull` instead. It returns `null` when its receiver is empty.  
`@param [operation]` function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.  
`@sample samples.collections.Collections.Aggregates.reduce`  
`BooleanArray.reduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean` {  
`if (isEmpty())` throw `UnsupportedOperationException("Empty array can't be reduced.")`  
`var accumulator = this[0]`  
`for (index in 1..lastIndex) {`  
`accumulator = operation(index, accumulator, this[index])`  
`}` return `accumulator`  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Throws an exception if this array is empty. If the array can be empty in an expected way, please use `reduceIndexedOrNull` instead. It returns `null` when its receiver is empty.  
`@param [operation]` function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.  
`@sample samples.collections.Collections.Aggregates.reduce`  
`CharArray.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char` {  
`if (isEmpty())` throw `UnsupportedOperationException("Empty array can't be reduced.")`  
`var accumulator = this[0]`  
`for (index in 1..lastIndex) {`  
`accumulator = operation(index, accumulator, this[index])`  
`}` return `accumulator`  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Returns `null` if the array is empty.  
`@param [operation]` function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.  
`@sample samples.collections.Collections.Aggregates.reduceOrNull`  
`@SinceKotlin("1.4")` public inline fun `<S, T : S> Array<out T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S?` {  
`if (isEmpty())` return `null`  
`var accumulator: S = this[0]`  
`for (index in 1..lastIndex) {`  
`accumulator = operation(index, accumulator, this[index])`  
`}` return `accumulator`  
 Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array. Returns `null` if the array is empty.  
`@param [operation]` function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.  
`@sample samples.collections.Collections.Aggregates.reduceOrNull`  
`@SinceKotlin("1.4")` public inline fun `ByteArray.reduceIndexedOrNull(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte?` {  
`if (isEmpty())` return `null`  
`var accumulator = this[0]`  
`for (index in 1..lastIndex) {`  
`accumulator = operation(index, accumulator, this[index])`  
`}` return `accumulator`  
 Accumulates value starting with the first element and applying [operation] from left to

right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n \* \n \* @SinceKotlin("1.4")\n public inline fun ShortArray.reduceIndexedOrNull(operation: (index: Int, acc: Short, Short) -> Short): Short? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n \* \n \* @SinceKotlin("1.4")\n public inline fun IntArray.reduceIndexedOrNull(operation: (index: Int, acc: Int, Int) -> Int): Int? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n \* \n \* @SinceKotlin("1.4")\n public inline fun LongArray.reduceIndexedOrNull(operation: (index: Int, acc: Long, Long) -> Long): Long? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n \* \n \* @SinceKotlin("1.4")\n public inline fun FloatArray.reduceIndexedOrNull(operation: (index: Int, acc: Float, Float) -> Float): Float? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n \* \n \* @SinceKotlin("1.4")\n public inline fun DoubleArray.reduceIndexedOrNull(operation: (index: Int, acc: Double, Double) -> Double): Double? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n \* \n \* @SinceKotlin("1.4")\n public inline fun BooleanArray.reduceIndexedOrNull(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): Boolean? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return accumulator\n}\n\n\*\*\n \* Accumulates value starting with the first element and applying [operation] from left to right\n \* to current accumulator value and each element with its index in the original array.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceOrNull\n

```

*\n@SinceKotlin("1.4")\npublic inline fun CharArray.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> Array<out T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n    if (isEmpty())\n        return null\n    var accumulator: S = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun ByteArray.reduceOrNull(operation: (acc: Byte, Byte) -> Byte): Byte? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun ShortArray.reduceOrNull(operation: (acc: Short, Short) -> Short): Short? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun IntArray.reduceOrNull(operation: (acc: Int, Int) -> Int): Int? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun LongArray.reduceOrNull(operation: (acc: Long, Long) -> Long): Long? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun FloatArray.reduceOrNull(operation: (acc: Float, Float) -> Float): Float? 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```

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accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
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DoubleArray.reduceOrNull(operation: (acc: Double, Double) -> Double): Double? {\n if (isEmpty())\n return
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CharArray.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {\n if (isEmpty())\n return null\n var
accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
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from right to left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null`
when its receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> Array<out
T>.reduceRight(operation: (T, acc: S) -> S): S {\n var index = lastIndex\n if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator: S = get(index--)\n while
(index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n *
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accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline
fun ByteArray.reduceRight(operation: (Byte, acc: Byte) -> Byte): Byte {\n var index = lastIndex\n if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
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(Short, acc: Short) -> Short): Short {\n var index = lastIndex\n if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n while
(index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an

```

expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

`@sample` `samples.collections.Collections.Aggregates.reduceRight`

```

public inline fun IntArray.reduceRight(operation: (Int, acc: Int) -> Int): Int {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

`@sample` `samples.collections.Collections.Aggregates.reduceRight`

```

public inline fun LongArray.reduceRight(operation: (Long, acc: Long) -> Long): Long {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

`@sample` `samples.collections.Collections.Aggregates.reduceRight`

```

public inline fun FloatArray.reduceRight(operation: (Float, acc: Float) -> Float): Float {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

`@sample` `samples.collections.Collections.Aggregates.reduceRight`

```

public inline fun DoubleArray.reduceRight(operation: (Double, acc: Double) -> Double): Double {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.

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`@param [operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

`@sample` `samples.collections.Collections.Aggregates.reduceRight`

```

public inline fun BooleanArray.reduceRight(operation: (Boolean, acc: Boolean) -> Boolean): Boolean {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value.

Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

`@param [operation]` function that takes an element and current accumulator value, and calculates the next accumulator value.

`@sample` `samples.collections.Collections.Aggregates.reduceRight`

```

public inline fun CharArray.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = get(index--)
    while

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(index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\n\npublic inline fun <S, T : S> Array<out T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator: S = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an exception if this array is empty. 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```

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accumulator)\n    --index\n } \n return accumulator\n}\n\n/**\n * Accumulates value starting with the last
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lastIndex\n    if (index < 0) return null\n    var accumulator: S = get(index--)\n    while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n *

```



Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n *^/\n@SinceKotlin(\"1.4\")\npublic inline fun  
ByteArray.reduceRightIndexedOrNull(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte? {\n    var index =  
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
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```
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ShortArray.reduceRightIndexedOrNull(operation: (index: Int, Short, acc: Short) -> Short): Short? {\n    var index =  
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
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```
samples.collections.Collections.Aggregates.reduceRightOrNull\n *^/\n@SinceKotlin(\"1.4\")\npublic inline fun  
IntArray.reduceRightIndexedOrNull(operation: (index: Int, Int, acc: Int) -> Int): Int? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator =  
operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
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```
samples.collections.Collections.Aggregates.reduceRightOrNull\n *^/\n@SinceKotlin(\"1.4\")\npublic inline fun  
LongArray.reduceRightIndexedOrNull(operation: (index: Int, Long, acc: Long) -> Long): Long? {\n    var index =  
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n *^/\n@SinceKotlin(\"1.4\")\npublic inline fun  
FloatArray.reduceRightIndexedOrNull(operation: (index: Int, Float, acc: Float) -> Float): Float? {\n    var index =  
lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n *^/\n@SinceKotlin(\"1.4\")\npublic inline fun  
DoubleArray.reduceRightIndexedOrNull(operation: (index: Int, Double, acc: Double) -> Double): Double? {\n    var  
index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n\n@SinceKotlin("1.4")\npublic inline fun\nBooleanArray.reduceRightIndexedOrNull(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element with its index in the original array and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n\n@SinceKotlin("1.4")\npublic inline fun\nCharArray.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {\n    var index =\n    lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>\nArray<out T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n    var index = lastIndex\n    if (index < 0)\n    return null\n    var accumulator: S = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--),\n        accumulator)\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun\nByteArray.reduceRightOrNull(operation: (Byte, acc: Byte) -> Byte): Byte? {\n    var index = lastIndex\n    if (index < 0)\n    return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator =\n        operation(get(index--), accumulator)\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun\nShortArray.reduceRightOrNull(operation: (Short, acc: Short) -> Short): Short? {\n    var index = lastIndex\n    if (index < 0)\n    return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator =\n        operation(get(index--), accumulator)\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and applying [operation] from right to left to each element and current accumulator value. Returns `null` if the array is empty.  
@param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```
samples.collections.Collections.Aggregates.reduceRightOrNull\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun\nIntArray.reduceRightOrNull(operation: (Int, acc: Int) -> Int): Int? {\n    var index = lastIndex\n    if (index < 0)\n    return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--),\n        accumulator)\n    }\n    return accumulator\n}
```

Accumulates value starting with the last element and

applying [operation] from right to left to each element and current accumulator value. Returns `null` if the array is empty. @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value. @sample

```

samples.collections.Collections.Aggregates.reduceRightOrNull

*\/@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
LongArray.reduceRightOrNull(operation: (Long, acc: Long) -> Long): Long? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator =
        operation(get(index--), accumulator)
    }
    return accumulator
}
// Accumulates value starting with the
last element and applying [operation] from right to left to each element and current accumulator value.
Returns `null` if the array is empty.
@param [operation] function that takes an element and current
accumulator value, and calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.reduceRightOrNull

*\/@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
FloatArray.reduceRightOrNull(operation: (Float, acc: Float) -> Float): Float? {
    var index = lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator =
        operation(get(index--), accumulator)
    }
    return accumulator
}
// Accumulates value starting with the
last element and applying [operation] from right to left to each element and current accumulator value.
Returns `null` if the array is empty.
@param [operation] function that takes an element and current
accumulator value, and calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.reduceRightOrNull

*\/@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
DoubleArray.reduceRightOrNull(operation: (Double, acc: Double) -> Double): Double? {
    var index =
    lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}
// Accumulates value
starting with the last element and applying [operation] from right to left to each element and current accumulator
value.
Returns `null` if the array is empty.
@param [operation] function that takes an element and
current accumulator value, and calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.reduceRightOrNull

*\/@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
BooleanArray.reduceRightOrNull(operation: (Boolean, acc: Boolean) -> Boolean): Boolean? {
    var index =
    lastIndex
    if (index < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}
// Accumulates value
starting with the last element and applying [operation] from right to left to each element and current accumulator
value.
Returns `null` if the array is empty.
@param [operation] function that takes an element and
current accumulator value, and calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.reduceRightOrNull

*\/@SinceKotlin("1.4")@WasExperimental(ExperimentalStdlibApi::class)public inline fun
CharArray.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {
    var index = lastIndex
    if (index
    < 0) return null
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator =
        operation(get(index--), accumulator)
    }
    return accumulator
}
// Returns a list containing successive
accumulation values generated by applying [operation] from left to right to each element and current
accumulator value that starts with [initial] value.
Note that `acc` value passed to [operation] function should
not be mutated; otherwise it would affect the previous value in resulting list.
@param [operation]
function that takes current accumulator value and an element, and calculates the next accumulator value.
@sample
samples.collections.Collections.Aggregates.runningFold

*\/@SinceKotlin("1.4")public inline fun
<T, R> Array<out T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {
    if (isEmpty()) return
    listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for
    (element in this) {
        accumulator = operation(accumulator, element)
        result.add(accumulator)
    }
}

```

return result\n}\n\n/\*\*\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element and current accumulator value that starts with [initial] value.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningFold\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFold(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.runningFold(initial: R, operation: (acc: R, Short) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.runningFold(initial: R, operation: (acc: R, Int) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.runningFold(initial: R, operation: (acc: R, Long) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.runningFold(initial: R, operation: (acc: R, Float) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
```

function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningFold\n

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.runningFold(initial: R,
operation: (acc: R, Double) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result =
ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.runningFold(initial:
R, operation: (acc: R, Boolean) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result =
ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.runningFold(initial: R,
operation: (acc: R, Char) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(size
+ 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator =
operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\npublic inline fun <T, R>
Array<out T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    if (isEmpty())
return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
```

```
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n    if (isEmpty())
return listOf(initial)\n    val result = ArrayList<R>(size + 1).apply { add(initial) }\n    var accumulator = initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
```

function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.runningFold
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
ShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {n if (isEmpty())
return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn
for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element, its index in the original array and
current accumulator value that starts with [initial] value.n * n * Note that `acc` value passed to [operation] function
should not be mutated;n * otherwise it would affect the previous value in resulting list.n * n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself, and calculates the
next accumulator value.n * n * @sample samples.collections.Collections.Aggregates.runningFoldn
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
IntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {n if (isEmpty()) return
listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn for
(index in indices) {n accumulator = operation(index, accumulator, this[index])n result.add(accumulator)n
}n return resultn}n/n/**n * Returns a list containing successive accumulation values generated by applying
[operation] from left to rightn * to each element, its index in the original array and current accumulator value that
starts with [initial] value.n * n * Note that `acc` value passed to [operation] function should not be mutated;n *
otherwise it would affect the previous value in resulting list.n * n * @param [operation] function that takes the
index of an element, current accumulator value and the element itself, and calculates the next accumulator
value.n * n * @sample samples.collections.Collections.Aggregates.runningFoldn
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
LongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {n if (isEmpty())
return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn
for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element, its index in the original array and
current accumulator value that starts with [initial] value.n * n * Note that `acc` value passed to [operation] function
should not be mutated;n * otherwise it would affect the previous value in resulting list.n * n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself, and calculates the
next accumulator value.n * n * @sample samples.collections.Collections.Aggregates.runningFoldn
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
FloatArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {n if (isEmpty())
return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator = initialn
for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element, its index in the original array and
current accumulator value that starts with [initial] value.n * n * Note that `acc` value passed to [operation] function
should not be mutated;n * otherwise it would affect the previous value in resulting list.n * n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself, and calculates the
next accumulator value.n * n * @sample samples.collections.Collections.Aggregates.runningFoldn
*/n@SinceKotlin("1.4")n@kotlin.internal.InlineOnlynpublic inline fun <R>
DoubleArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {n if
(isEmpty()) return listOf(initial)n val result = ArrayList<R>(size + 1).apply { add(initial) }n var accumulator =
initialn for (index in indices) {n accumulator = operation(index, accumulator, this[index])n
result.add(accumulator)n }n return resultn}n/n/**n * Returns a list containing successive accumulation
values generated by applying [operation] from left to rightn * to each element, its index in the original array and

```

current accumulator value that starts with [initial] value.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningFold\n \* \n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline fun <R> BooleanArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n }\n\n\n\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element, its index in the original array and current accumulator value that starts with [initial] value.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningFold\n \* \n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline fun <R> CharArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return 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result.add(accumulator)\n }\n return result\n }\n\n\n\n\n \* Returns a list containing successive accumulation values generated by applying [operation] from left to right\n \* to each element and current accumulator value that starts with the first element of this array.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningReduce\n \* \n @SinceKotlin("1.4")\n @kotlin.internal.InlineOnly\n public inline fun ByteArray.runningReduce(operation: (acc: Byte, Byte) -> Byte): List<Byte> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Byte>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n }\n\n\n\n\n\n \* Returns a list containing successive accumulation values generated by applying 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\* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningReduce\n \* \n

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.runningReduce(operation: (acc:
Int, Int) -> Int): List<Int> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result =
ArrayList<Int>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.runningReduce(operation:
(acc: Long, Long) -> Long): List<Long> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n
val result = ArrayList<Long>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.runningReduce(operation:
(acc: Float, Float) -> Float): List<Float> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val
result = ArrayList<Float>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function
that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.runningReduce(operation:
(acc: Double, Double) -> Double): List<Double> {\n if (isEmpty()) return emptyList()\n var accumulator =
this[0]\n val result = ArrayList<Double>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n
accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n
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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.runningReduce(operation:
(acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n if (isEmpty()) return emptyList()\n var accumulator =
this[0]\n val result = ArrayList<Boolean>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n
accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n
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[operation] function that takes current accumulator value and an element, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.runningReduce(operation:
(acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val
result = ArrayList<Char>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator =
operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element,
its index in the original array and current accumulator value that starts with the first element of this array.\n * \n *
Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current

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accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n *^\n@SinceKotlin("1.4")\npublic inline fun <S, T :
S> Array<out T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n  if (isEmpty()) return
emptyList()\n  var accumulator: S = this[0]\n  val result = ArrayList<S>(size).apply { add(accumulator) }\n  for
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*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.runningReduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): List<Byte> {\n  if (isEmpty())
return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Byte>(size).apply { add(accumulator)
}\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
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*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.runningReduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): List<Short> {\n  if
(isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Short>(size).apply {
add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
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*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.runningReduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): List<Int> {\n  if (isEmpty()) return
emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Int>(size).apply { add(accumulator) }\n  for
(index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
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*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.runningReduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): List<Long> {\n  if
(isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Long>(size).apply {
add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
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accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*^\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.runningReduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): List<Float> {\n  if

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(isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Float>(size).apply {
add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
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*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.runningReduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): List<Double> {\n    if
(isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Double>(size).apply {
add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n
        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
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*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.runningReduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): List<Boolean>
{\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result =
ArrayList<Boolean>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator =
operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element, its index in the original array and current accumulator value that starts with the first element of this
array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and
the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*/\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n    if (isEmpty())
return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Char>(size).apply { add(accumulator)
}\n    for (index in 1 until size) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Array<out T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n    return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that
`acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*/\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.scan(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n    return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that
`acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in

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resulting list.

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    * @param [operation] function that takes current accumulator value and an element, and
    calculates the next accumulator value.
    * @sample samples.collections.Collections.Aggregates.scan
    * \n @SinceKotlin("1.4") \n @WasExperimental(ExperimentalStdlibApi::class) \n @kotlin.internal.InlineOnly \n publi
    c inline fun <R> ShortArray.scan(initial: R, operation: (acc: R, Short) -> R): List<R> { \n    return
    runningFold(initial, operation) \n } \n \n /** \n * Returns a list containing successive accumulation values generated by
    applying [operation] from left to right \n * to each element and current accumulator value that starts with [initial]
    value. \n * \n * Note that `acc` value passed to [operation] function should not be mutated; \n * otherwise it would
    affect the previous value in resulting list. \n * \n * @param [operation] function that takes current accumulator value
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    * \n @SinceKotlin("1.4") \n @WasExperimental(ExperimentalStdlibApi::class) \n @kotlin.internal.InlineOnly \n publi
    c inline fun <R> IntArray.scan(initial: R, operation: (acc: R, Int) -> R): List<R> { \n    return runningFold(initial,
    operation) \n } \n \n /** \n * Returns a list containing successive accumulation values generated by applying [operation]
    from left to right \n * to each element and current accumulator value that starts with [initial] value. \n * \n * Note that
    `acc` value passed to [operation] function should not be mutated; \n * otherwise it would affect the previous value in
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    c inline fun <R> LongArray.scan(initial: R, operation: (acc: R, Long) -> R): List<R> { \n    return
    runningFold(initial, operation) \n } \n \n /** \n * Returns a list containing successive accumulation values generated by
    applying [operation] from left to right \n * to each element and current accumulator value that starts with [initial]
    value. \n * \n * Note that `acc` value passed to [operation] function should not be mutated; \n * otherwise it would
    affect the previous value in resulting list. \n * \n * @param [operation] function that takes current accumulator value
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    samples.collections.Collections.Aggregates.scan
    * \n @SinceKotlin("1.4") \n @WasExperimental(ExperimentalStdlibApi::class) \n @kotlin.internal.InlineOnly \n publi
    c inline fun <R> FloatArray.scan(initial: R, operation: (acc: R, Float) -> R): List<R> { \n    return
    runningFold(initial, operation) \n } \n \n /** \n * Returns a list containing successive accumulation values generated by
    applying [operation] from left to right \n * to each element and current accumulator value that starts with [initial]
    value. \n * \n * Note that `acc` value passed to [operation] function should not be mutated; \n * otherwise it would
    affect the previous value in resulting list. \n * \n * @param [operation] function that takes current accumulator value
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    samples.collections.Collections.Aggregates.scan
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    c inline fun <R> DoubleArray.scan(initial: R, operation: (acc: R, Double) -> R): List<R> { \n    return
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    applying [operation] from left to right \n * to each element and current accumulator value that starts with [initial]
    value. \n * \n * Note that `acc` value passed to [operation] function should not be mutated; \n * otherwise it would
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    c inline fun <R> BooleanArray.scan(initial: R, operation: (acc: R, Boolean) -> R): List<R> { \n    return
    runningFold(initial, operation) \n } \n \n /** \n * Returns a list containing successive accumulation values generated by
    applying [operation] from left to right \n * to each element and current accumulator value that starts with [initial]
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    affect the previous value in resulting list. \n * \n * @param [operation] function that takes current accumulator value
    and an element, and calculates the next accumulator value. \n * \n * @sample
    samples.collections.Collections.Aggregates.scan
  
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samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> CharArray.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n  return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original array and current accumulator value that starts with
[initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it
would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an
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Array<out T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
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c inline fun <R> ByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
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next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> ShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> IntArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> LongArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the

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next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> FloatArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> DoubleArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n
return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> BooleanArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n
return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values
generated by applying [operation] from left to right\n * to each element, its index in the original array and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun <R> CharArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Array<out T>.sumBy(selector: (T) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ByteArray.sumBy(selector: (Byte) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ShortArray.sumBy(selector: (Short) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
IntArray.sumBy(selector: (Int) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
LongArray.sumBy(selector: (Long) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function

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applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
FloatArray.sumBy(selector: (Float) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
DoubleArray.sumBy(selector: (Double) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharArray.sumBy(selector: (Char) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Array<out T>.sumByDouble(selector: (T) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ByteArray.sumByDouble(selector: (Byte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
ShortArray.sumByDouble(selector: (Short) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
IntArray.sumByDouble(selector: (Int) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n
        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
LongArray.sumByDouble(selector: (Long) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
FloatArray.sumByDouble(selector: (Float) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
DoubleArray.sumByDouble(selector: (Double) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
BooleanArray.sumByDouble(selector: (Boolean) -> Double): Double {\n    var sum: Double = 0.0\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced

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by [selector] function applied to each element in the array.\n *\n@Deprecated("Use sumOf instead.\",
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharArray.sumByDouble(selector: (Char) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.sumOf(selector: (T) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector: (Short) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element
in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for
(element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in

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this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Array<out T>.sumOf(selector: (T) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector: (Short) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
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IntArray.sumOf(selector: (Int) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
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BooleanArray.sumOf(selector: (Boolean) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Array<out T>.sumOf(selector: (T) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.sumOf(selector: (Byte) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.sumOf(selector: (Short) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.sumOf(selector: (Int) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
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ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.sumOf(selector: (Long) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.sumOf(selector: (Float) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
DoubleArray.sumOf(selector: (Double) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this)
{\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return

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sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> UInt): UInt {\n  var
sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> UInt): UInt {\n  var
sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> UInt): UInt {\n  var
sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> UInt): UInt {\n  var
sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> UInt): UInt {\n  var
sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> UInt): UInt {\n
var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> UInt): UInt
{\n  var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> UInt): UInt {\n  var
sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> ULong):
ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n}

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return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> ULong): ULong {\n
var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> ULong):
ULong {\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return

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sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any>
Array<T?>.requireNonNulls(): Array<T> {\n    for (element in this) {\n        if (element == null) {\n            throw
IllegalArgumentException("null element found in $this.")\n        }\n    }\n}
@Suppress("UNCHECKED_CAST")\n return this as Array<T>\n}\n\n/**\n * Splits the original array into pair
of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains
elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun <T> Array<out
T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n    val first = ArrayList<T>()\n    val second =
ArrayList<T>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n
            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair
of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains
elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
ByteArray.partition(predicate: (Byte) -> Boolean): Pair<List<Byte>, List<Byte>> {\n    val first =
ArrayList<Byte>()\n    val second = ArrayList<Byte>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which
[predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
ShortArray.partition(predicate: (Short) -> Boolean): Pair<List<Short>, List<Short>> {\n    val first =
ArrayList<Short>()\n    val second = ArrayList<Short>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which
[predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
IntArray.partition(predicate: (Int) -> Boolean): Pair<List<Int>, List<Int>> {\n    val first = ArrayList<Int>()\n    val
second = ArrayList<Int>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n
        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original
array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while
*second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
LongArray.partition(predicate: (Long) -> Boolean): Pair<List<Long>, List<Long>> {\n    val first =
ArrayList<Long>()\n    val second = ArrayList<Long>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which
[predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
FloatArray.partition(predicate: (Float) -> Boolean): Pair<List<Float>, List<Float>> {\n    val first =
ArrayList<Float>()\n    val second = ArrayList<Float>()\n    for (element in this) {\n        if (predicate(element)) {\n
            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which
[predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
DoubleArray.partition(predicate: (Double) -> Boolean): Pair<List<Double>, List<Double>> {\n    val first =
ArrayList<Double>()\n    val second = ArrayList<Double>()\n    for (element in this) {\n        if (predicate(element))
{\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n    return Pair(first,
second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which

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[predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n *
@sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun
BooleanArray.partition(predicate: (Boolean) -> Boolean): Pair<List<Boolean>, List<Boolean>> {\n    val first =
ArrayList<Boolean>()\n    val second = ArrayList<Boolean>()\n    for (element in this) {\n        if
(predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n    }\n
return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains
elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate]
yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n
*/\npublic inline fun CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {\n    val
first = ArrayList<Char>()\n    val second = ArrayList<Char>()\n    for (element in this) {\n        if
(predicate(element)) {\n            first.add(element)\n        } else {\n            second.add(element)\n        }\n
    }\n    return Pair(first, second)\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other]
array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Array<out T>.zip(other:
Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun
<R> ByteArray.zip(other: Array<out R>): List<Pair<Byte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ShortArray.zip(other: Array<out
R>): List<Pair<Short, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
IntArray.zip(other: Array<out R>): List<Pair<Int, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> LongArray.zip(other: Array<out
R>): List<Pair<Long, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
FloatArray.zip(other: Array<out R>): List<Pair<Float, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> DoubleArray.zip(other: Array<out
R>): List<Pair<Double, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R>
BooleanArray.zip(other: Array<out R>): List<Pair<Boolean, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> CharArray.zip(other: Array<out R>):
List<Pair<Char, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] array with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Array<out
T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n    val size = minOf(size, other.size)\n    val
list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return

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list<T>.zip(other: List<T>): List<T>
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> ByteArray.zip(other: Array<out R>, transform: (a: Byte, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> ShortArray.zip(other: Array<out R>, transform: (a: Short, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> IntArray.zip(other: Array<out R>, transform: (a: Int, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> LongArray.zip(other: Array<out R>, transform: (a: Long, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> FloatArray.zip(other: Array<out R>, transform: (a: Float, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> DoubleArray.zip(other: Array<out R>, transform: (a: Double, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> BooleanArray.zip(other: Array<out R>, transform: (a: Boolean, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements. The returned list has length of the shortest collection.
@sample samples.collections.Iterables.Operations.zipIterableWithTransform
public inline fun <R, V> CharArray.zip(other: Array<out R>, transform: (a: Char, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index. The returned list has length of the shortest collection.
@sample

```

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samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <T, R> Array<out T>.zip(other:
Iterable<R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R>
ByteArray.zip(other: Iterable<R>): List<Pair<Byte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R> ShortArray.zip(other: Iterable<R>):
List<Pair<Short, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R>
IntArray.zip(other: Iterable<R>): List<Pair<Int, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R> LongArray.zip(other: Iterable<R>):
List<Pair<Long, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R>
FloatArray.zip(other: Iterable<R>): List<Pair<Float, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R> DoubleArray.zip(other:
Iterable<R>): List<Pair<Double, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun
<R> BooleanArray.zip(other: Iterable<R>): List<Pair<Boolean, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun <R> CharArray.zip(other: Iterable<R>):
List<Pair<Char, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <T, R, V> Array<out
T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline
fun <R, V> ByteArray.zip(other: Iterable<R>, transform: (a: Byte, b: R) -> V): List<V> {\n    val arraySize = size\n
val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in
other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n
* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\npublic inline fun <R, V> ShortArray.zip(other: Iterable<R>, transform: (a: Short, b: R) -> V): List<V> {\n    val
arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n
for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n
return

```

list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample

samples.collections.Iterables.Operations.zipIterableWithTransform\n \*\npublic inline fun <R, V>

IntArray.zip(other: Iterable<R>, transform: (a: Int, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n \*\npublic inline

fun <R, V> LongArray.zip(other: Iterable<R>, transform: (a: Long, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return

list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample

samples.collections.Iterables.Operations.zipIterableWithTransform\n \*\npublic inline fun <R, V>

FloatArray.zip(other: Iterable<R>, transform: (a: Float, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n \*\npublic inline

fun <R, V> DoubleArray.zip(other: Iterable<R>, transform: (a: Double, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return

list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample

samples.collections.Iterables.Operations.zipIterableWithTransform\n \*\npublic inline fun <R, V>

BooleanArray.zip(other: Iterable<R>, transform: (a: Boolean, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/\*\*\n \* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

\*\npublic inline fun <R, V> CharArray.zip(other: Iterable<R>, transform: (a: Char, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return

list\n}\n\n/\*\*\n \* Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample

samples.collections.Iterables.Operations.zipIterable\n \*\npublic infix fun ByteArray.zip(other: ByteArray):

List<Pair<Byte, Byte>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/\*\*\n \* Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample samples.collections.Iterables.Operations.zipIterable\n \*\npublic infix fun

ShortArray.zip(other: ShortArray): List<Pair<Short, Short>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/\*\*\n

\* Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n \* The returned list has length of the shortest collection.\n \* \n \* @sample



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samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun IntArray.zip(other: IntArray):
List<Pair<Int, Int>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the
elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun
LongArray.zip(other: LongArray): List<Pair<Long, Long>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n
* Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun FloatArray.zip(other: FloatArray):
List<Pair<Float, Float>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun
DoubleArray.zip(other: DoubleArray): List<Pair<Double, Double>> {\n  return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun BooleanArray.zip(other: BooleanArray):
List<Pair<Boolean, Boolean>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n *\npublic infix fun
CharArray.zip(other: CharArray): List<Pair<Char, Char>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n
* Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun
<V> ByteArray.zip(other: ByteArray, transform: (a: Byte, b: Byte) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
ShortArray.zip(other: ShortArray, transform: (a: Short, b: Short) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V> IntArray.zip(other:
IntArray, transform: (a: Int, b: Int) -> V): List<V> {\n  val size = minOf(size, other.size)\n  val list =
ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\npublic inline fun <V> LongArray.zip(other: LongArray, transform: (a: Long, b: Long) -> V): List<V> {\n  val
size = minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each
pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
FloatArray.zip(other: FloatArray, transform: (a: Float, b: Float) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array

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with the same index\n \* using the provided [transform] function applied to each pair of elements.\n \* The returned list has length of the shortest array.\n \* \n \* @sample

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samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
DoubleArray.zip(other: DoubleArray, transform: (a: Double, b: Double) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
BooleanArray.zip(other: BooleanArray, transform: (a: Boolean, b: Boolean) -> V): List<V> {\n    val size =
minOf(size, other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i],
other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the
[other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n *
The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n *\npublic inline fun <V>
CharArray.zip(other: CharArray, transform: (a: Char, b: Char) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
    }\n    return list\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the
given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value
of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string
(which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun
<T, A : Appendable> Array<out T>.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"",
postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            buffer.appendElement(element, transform)\n
        } else break\n    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n
return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> ByteArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n                buffer.append(transform(element))\n            else\n                buffer.append(element.toString())\n        } else break\n
    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n *\npublic fun <A :
Appendable> ShortArray.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Short) -> CharSequence)? =
null): A {\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            if (transform != null)\n                buffer.append(transform(element))\n            else\n                buffer.append(element.toString())\n        } else break\n
    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of

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[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> IntArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Int) -> CharSequence)? = null):
A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> LongArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Long) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> FloatArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Float) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> DoubleArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Double) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> BooleanArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Boolean) ->
CharSequence)? = null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count
> 1) buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return

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buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \n\npublic fun <A :
Appendable> CharArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Char) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element)\n    } else break\n  }\n  if
(limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer\n}\n\n/**\n *
Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n * \n\npublic fun <T> Array<out
T>.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit:
Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a
string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first
[limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n * \n\npublic fun ByteArray.joinToString(separator:
CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Byte) -> CharSequence)? = null): String {\n  return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \n\npublic fun ShortArray.joinToString(separator:
CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Short) -> CharSequence)? = null): String {\n  return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \n\npublic fun IntArray.joinToString(separator:
CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Int) -> CharSequence)? = null): String {\n  return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \n\npublic fun LongArray.joinToString(separator:
CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Long) -> CharSequence)? = null): String {\n  return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * \n * @sample

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samples.collections.Collections.Transformations.joinToString\n *^npublic fun FloatArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Float) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun DoubleArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Double) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun
BooleanArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence =
\"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Boolean) -> CharSequence)? = null): String {\n
return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates
a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first
[limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun CharArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Char) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements when being iterated.\n *^npublic fun <T> Array<out T>.asIterable():
Iterable<T> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n *^npublic fun
ByteArray.asIterable(): Iterable<Byte> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator()
}\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being
iterated.\n *^npublic fun ShortArray.asIterable(): Iterable<Short> {\n    if (isEmpty()) return emptyList()\n    return
Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its
elements when being iterated.\n *^npublic fun IntArray.asIterable(): Iterable<Int> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n *^npublic fun LongArray.asIterable(): Iterable<Long> {\n    if
(isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements when being iterated.\n *^npublic fun FloatArray.asIterable():
Iterable<Float> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n *^npublic fun
DoubleArray.asIterable(): Iterable<Double> {\n    if (isEmpty()) return emptyList()\n    return Iterable {
this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when
being iterated.\n *^npublic fun BooleanArray.asIterable(): Iterable<Boolean> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n *^npublic fun CharArray.asIterable(): Iterable<Char> {\n    if
(isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that
wraps the original array returning its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun <T> Array<out T>.asSequence():
Sequence<T> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *

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Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun ByteArray.asSequence():
Sequence<Byte> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun ShortArray.asSequence():
Sequence<Short> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun IntArray.asSequence():
Sequence<Int> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun LongArray.asSequence():
Sequence<Long> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun FloatArray.asSequence():
Sequence<Float> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun DoubleArray.asSequence():
Sequence<Double> {\n if (isEmpty()) return emptySequence()\n return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic fun
BooleanArray.asSequence(): Sequence<Boolean> {\n if (isEmpty()) return emptySequence()\n return Sequence
{ this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements
when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n *^npublic
fun CharArray.asSequence(): Sequence<Char> {\n if (isEmpty()) return emptySequence()\n return Sequence {
this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Array<out Byte>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Array<out Short>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Array<out Int>.average(): Double {\n var sum: Double
= 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return if (count
== 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^n@kotlin.jvm.JvmName("averageOfLong")\npublic fun Array<out Long>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Array<out Float>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Array<out Double>.average(): Double {\n var sum:
Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n ++count\n }\n return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*^npublic fun ByteArray.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in
this) {\n sum += element\n ++count\n }\n return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the array.\n *^npublic fun ShortArray.average():
Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n
++count\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of

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elements in the array.\n */\npublic fun IntArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun LongArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun FloatArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun DoubleArray.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        ++count\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Array<out Byte>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Array<out Short>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Array<out Int>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Array<out Long>.sum(): Long {\n    var sum: Long = 0L\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun Array<out Float>.sum(): Float {\n    var sum: Float = 0.0f\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Array<out Double>.sum(): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ByteArray.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ShortArray.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun IntArray.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun LongArray.sum(): Long {\n    var sum: Long = 0L\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun FloatArray.sum(): Float {\n    var sum: Float = 0.0f\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun DoubleArray.sum(): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n}\n\n\n/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage kotlin.ranges\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.random(): Int {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun LongRange.random(): Long {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n */

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*\n@SinceKotlin("1.3")\npublic fun IntRange.random(random: Random): Int {\n    try {\n        return
random.nextInt(this)\n    } catch(e: IllegalArgumentException) {\n        throw
NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a random element from this range using the
specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\npublic fun LongRange.random(random: Random): Long {\n    try {\n        return
random.nextLong(this)\n    } catch(e: IllegalArgumentException) {\n        throw
NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a random element from this range using the
specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n
*\n@SinceKotlin("1.3")\npublic fun CharRange.random(random: Random): Char {\n    try {\n        return
random.nextInt(first.code, last.code + 1).toChar()\n    } catch(e: IllegalArgumentException) {\n        throw
NoSuchElementException(e.message)\n    }\n}\n\n/**\n * Returns a random element from this range, or `null` if this
range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun IntRange.randomOrNull(): Int? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random
element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun LongRange.randomOrNull(): Long? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this range, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun CharRange.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a
random element from this range using the specified source of randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
IntRange.randomOrNull(random: Random): Int? {\n    if (isEmpty())\n        return null\n    return
random.nextInt(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of
randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongRange.randomOrNull(random: Random): Long? {\n    if (isEmpty())\n        return null\n    return
random.nextLong(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of
randomness, or `null` if this range is empty.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharRange.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return
random.nextInt(first.code, last.code + 1).toChar()\n}\n\n/**\n * Returns `true` if this range contains the specified
[element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun IntRange.contains(element:
Int?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains
the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun LongRange.contains(element:
Long?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range
contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun CharRange.contains(element:
Char?): Boolean {\n    return element != null && contains(element)\n}\n\n/**\n * Checks if the specified [value]
belongs to this range.\n *\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun
ClosedRange<Int>.contains(value: Byte): Boolean {\n    return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n *\n@kotlin.jvm.JvmName("longRangeContains")\npublic operator fun
ClosedRange<Long>.contains(value: Byte): Boolean {\n    return contains(value.toLong())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n *\n@kotlin.jvm.JvmName("shortRangeContains")\npublic operator
fun ClosedRange<Short>.contains(value: Byte): Boolean {\n    return contains(value.toShort())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *\n@Deprecated("This `contains` operation mixing integer

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and floating point arguments has ambiguous semantics and is going to be removed.  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("doubleRangeContains")`  
`public operator fun ClosedRange<Double>.contains(value: Byte): Boolean` {  
 return contains(value.toDouble())  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("floatRangeContains")`  
`public operator fun ClosedRange<Float>.contains(value: Byte): Boolean` {  
 return contains(value.toFloat())  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("intRangeContains")`  
`public operator fun ClosedRange<Int>.contains(value: Double): Boolean` {  
 return value.toIntExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("longRangeContains")`  
`public operator fun ClosedRange<Long>.contains(value: Double): Boolean` {  
 return value.toLongExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("byteRangeContains")`  
`public operator fun ClosedRange<Byte>.contains(value: Double): Boolean` {  
 return value.toByteExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("shortRangeContains")`  
`public operator fun ClosedRange<Short>.contains(value: Double): Boolean` {  
 return value.toShortExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@kotlin.jvm.JvmName("floatRangeContains")`  
`public operator fun ClosedRange<Float>.contains(value: Double): Boolean` {  
 return contains(value.toFloat())  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("intRangeContains")`  
`public operator fun ClosedRange<Int>.contains(value: Float): Boolean` {  
 return value.toIntExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("longRangeContains")`  
`public operator fun ClosedRange<Long>.contains(value: Float): Boolean` {  
 return value.toLongExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`  
`@kotlin.jvm.JvmName("byteRangeContains")`  
`public operator fun ClosedRange<Byte>.contains(value: Float): Boolean` {  
 return value.toByteExactOrNull().let { if (it != null) contains(it) else false }  
}
  
 Checks if the specified [value] belongs to this range.  
`*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")`  
`@DeprecatedSinceKotlin(warningSince = "1.3", errorSince = "1.4", hiddenSince = "1.5")`

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= \"1.5\")\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun
ClosedRange<Short>.contains(value: Float): Boolean {\n  return value.toShortExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*/\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value:
Float): Boolean {\n  return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n */\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun
ClosedRange<Long>.contains(value: Int): Boolean {\n  return contains(value.toLong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun
ClosedRange<Byte>.contains(value: Int): Boolean {\n  return value.toByteExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*/\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Int):
Boolean {\n  return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and
floating point arguments has ambiguous semantics and is going to be
removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince =
\"1.5\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun
ClosedRange<Double>.contains(value: Int): Boolean {\n  return contains(value.toDouble())\n}\n\n/**\n * Checks
if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and
floating point arguments has ambiguous semantics and is going to be
removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince =
\"1.5\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value:
Int): Boolean {\n  return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n */\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value:
Long): Boolean {\n  return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic
operator fun ClosedRange<Byte>.contains(value: Long): Boolean {\n  return value.toByteExactOrNull().let { if (it
!= null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*/\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value:
Long): Boolean {\n  return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince =
\"1.5\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun
ClosedRange<Double>.contains(value: Long): Boolean {\n  return contains(value.toDouble())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince =
\"1.5\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value:
Long): Boolean {\n  return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n */\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value:
Short): Boolean {\n  return contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this
range.\n */\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun
ClosedRange<Long>.contains(value: Short): Boolean {\n  return contains(value.toLong())\n}\n\n/**\n * Checks if
the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator
fun ClosedRange<Byte>.contains(value: Short): Boolean {\n  return value.toByteExactOrNull().let { if (it != null)
contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*/\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics
and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince

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= \"1.5\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun
ClosedRange<Double>.contains(value: Short): Boolean {\n    return contains(value.toDouble())\n}\n\n/**\n *
Checks if the specified [value] belongs to this range.\n *^\n@Deprecated(\"This `contains` operation mixing integer
and floating point arguments has ambiguous semantics and is going to be
removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\", hiddenSince =
\"1.5\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value:
Short): Boolean {\n    return contains(value.toFloat())\n}\n\n/**\n * Returns a progression from this value down to
the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If
the [to] value is greater than `this` value the returned progression is empty.\n *^\npublic infix fun Int.downTo(to: Byte):
IntProgression {\n    return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/**\n * Returns a progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal
to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *^\npublic infix
fun Long.downTo(to: Byte): LongProgression {\n    return LongProgression.fromClosedRange(this, to.toLong(), -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the
returned progression is empty.\n *^\npublic infix fun Byte.downTo(to: Byte): IntProgression {\n    return
IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value
down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n
* If the [to] value is greater than `this` value the returned progression is empty.\n *^\npublic infix fun
Short.downTo(to: Byte): IntProgression {\n    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -
1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The
[to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned
progression is empty.\n *^\npublic infix fun Char.downTo(to: Char): CharProgression {\n    return
CharProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from this value down to the
specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]
value is greater than `this` value the returned progression is empty.\n *^\npublic infix fun Int.downTo(to: Int):
IntProgression {\n    return IntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from
this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to
`this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *^\npublic infix fun
Long.downTo(to: Int): LongProgression {\n    return LongProgression.fromClosedRange(this, to.toLong(), -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the
returned progression is empty.\n *^\npublic infix fun Byte.downTo(to: Int): IntProgression {\n    return
IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/**\n * Returns a progression from this value down to the
specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]
value is greater than `this` value the returned progression is empty.\n *^\npublic infix fun Short.downTo(to: Int):
IntProgression {\n    return IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/**\n * Returns a progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal
to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n *^\npublic infix
fun Int.downTo(to: Long): LongProgression {\n    return LongProgression.fromClosedRange(this.toLong(), to, -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the
returned progression is empty.\n *^\npublic infix fun Long.downTo(to: Long): LongProgression {\n    return
LongProgression.fromClosedRange(this, to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the
specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]
value is greater than `this` value the returned progression is empty.\n *^\npublic infix fun Byte.downTo(to: Long):
LongProgression {\n    return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a
progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less

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than or equal to `this` value.\n \* If the [to] value is greater than `this` value the returned progression is empty.\n
 \*\npublic infix fun Short.downTo(to: Long): LongProgression {\n return
 LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n\*\*\n \* Returns a progression from this value
 down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n
 \* If the [to] value is greater than `this` value the returned progression is empty.\n \*\npublic infix fun Int.downTo(to:
 Short): IntProgression {\n return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n\*\*\n \* Returns a
 progression from this value down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less
 than or equal to `this` value.\n \* If the [to] value is greater than `this` value the returned progression is empty.\n
 \*\npublic infix fun Long.downTo(to: Short): LongProgression {\n return LongProgression.fromClosedRange(this,
 to.toLong(), -1L)\n}\n\n\*\*\n \* Returns a progression from this value down to the specified [to] value with the step -
 1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n \* If the [to] value is greater than `this` value
 the returned progression is empty.\n \*\npublic infix fun Byte.downTo(to: Short): IntProgression {\n return
 IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n\*\*\n \* Returns a progression from this value
 down to the specified [to] value with the step -1.\n \* \n \* The [to] value should be less than or equal to `this` value.\n
 \* If the [to] value is greater than `this` value the returned progression is empty.\n \*\npublic infix fun
 Short.downTo(to: Short): IntProgression {\n return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -
 1)\n}\n\n\*\*\n \* Returns a progression that goes over the same range in the opposite direction with the same step.\n
 \*\npublic fun IntProgression.reversed(): IntProgression {\n return IntProgression.fromClosedRange(last, first, -
 step)\n}\n\n\*\*\n \* Returns a progression that goes over the same range in the opposite direction with the same
 step.\n \*\npublic fun LongProgression.reversed(): LongProgression {\n return
 LongProgression.fromClosedRange(last, first, -step)\n}\n\n\*\*\n \* Returns a progression that goes over the same
 range in the opposite direction with the same step.\n \*\npublic fun CharProgression.reversed(): CharProgression {\n
 return CharProgression.fromClosedRange(last, first, -step)\n}\n\n\*\*\n \* Returns a progression that goes over the
 same range with the given step.\n \*\npublic infix fun IntProgression.step(step: Int): IntProgression {\n
 checkStepIsPositive(step > 0, step)\n return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -
 step)\n}\n\n\*\*\n \* Returns a progression that goes over the same range with the given step.\n \*\npublic infix fun
 LongProgression.step(step: Long): LongProgression {\n checkStepIsPositive(step > 0, step)\n return
 LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n\*\*\n \* Returns a progression
 that goes over the same range with the given step.\n \*\npublic infix fun CharProgression.step(step: Int):
 CharProgression {\n checkStepIsPositive(step > 0, step)\n return CharProgression.fromClosedRange(first, last, if
 (this.step > 0) step else -step)\n}\n\ninternal fun Int.toByteExactOrNull(): Byte? {\n return if (this in
 Byte.MIN\_VALUE.toInt()..Byte.MAX\_VALUE.toInt()) this.toByte() else null\n}\n\ninternal fun
 Long.toByteExactOrNull(): Byte? {\n return if (this in
 Byte.MIN\_VALUE.toLong()..Byte.MAX\_VALUE.toLong()) this.toByte() else null\n}\n\ninternal fun
 Short.toByteExactOrNull(): Byte? {\n return if (this in
 Byte.MIN\_VALUE.toShort()..Byte.MAX\_VALUE.toShort()) this.toByte() else null\n}\n\ninternal fun
 Double.toByteExactOrNull(): Byte? {\n return if (this in
 Byte.MIN\_VALUE.toDouble()..Byte.MAX\_VALUE.toDouble()) this.toInt().toByte() else null\n}\n\ninternal fun
 Float.toByteExactOrNull(): Byte? {\n return if (this in
 Byte.MIN\_VALUE.toFloat()..Byte.MAX\_VALUE.toFloat()) this.toInt().toByte() else null\n}\n\ninternal fun
 Long.toIntExactOrNull(): Int? {\n return if (this in Int.MIN\_VALUE.toLong()..Int.MAX\_VALUE.toLong())
 this.toInt() else null\n}\n\ninternal fun Double.toIntExactOrNull(): Int? {\n return if (this in
 Int.MIN\_VALUE.toDouble()..Int.MAX\_VALUE.toDouble()) this.toInt() else null\n}\n\ninternal fun
 Float.toIntExactOrNull(): Int? {\n return if (this in Int.MIN\_VALUE.toFloat()..Int.MAX\_VALUE.toFloat())
 this.toInt() else null\n}\n\ninternal fun Double.toLongExactOrNull(): Long? {\n return if (this in
 Long.MIN\_VALUE.toDouble()..Long.MAX\_VALUE.toDouble()) this.toLong() else null\n}\n\ninternal fun
 Float.toLongExactOrNull(): Long? {\n return if (this in
 Long.MIN\_VALUE.toFloat()..Long.MAX\_VALUE.toFloat()) this.toLong() else null\n}\n\ninternal fun

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Int.ToShortExactOrNull(): Short? {\n  return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt())
this.ToShort() else null\n}\n\ninternal fun Long.ToShortExactOrNull(): Short? {\n  return if (this in
Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.ToShort() else null\n}\n\ninternal fun
Double.ToShortExactOrNull(): Short? {\n  return if (this in
Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toInt().toShort() else null\n}\n\ninternal fun
Float.ToShortExactOrNull(): Short? {\n  return if (this in
Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toInt().toShort() else null\n}\n\n**\n * Returns
a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to
`this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Byte): IntRange {\n  return this ..
(to.toInt() - 1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n *
\n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun
Long.until(to: Byte): LongRange {\n  return this .. (to.toLong() - 1).toLong()\n}\n\n**\n * Returns a range from
this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value,
then the returned range is empty.\n */\npublic infix fun Byte.until(to: Byte): IntRange {\n  return this.toInt() ..
(to.toInt() - 1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n *
\n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun
Short.until(to: Byte): IntRange {\n  return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n**\n * Returns a range from
this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value,
then the returned range is empty.\n */\npublic infix fun Char.until(to: Char): CharRange {\n  if (to <= '\u0000')
return CharRange.EMPTY\n  return this .. (to - 1).toChar()\n}\n\n**\n * Returns a range from this value up to but
excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n */\npublic infix fun Int.until(to: Int): IntRange {\n  if (to <= Int.MIN_VALUE) return
IntRange.EMPTY\n  return this .. (to - 1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding
the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is
empty.\n */\npublic infix fun Long.until(to: Int): LongRange {\n  return this .. (to.toLong() -
1).toLong()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to:
Int): IntRange {\n  if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n  return this.toInt() .. (to -
1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to:
Int): IntRange {\n  if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n  return this.toInt() .. (to -
1).toInt()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to:
Long): LongRange {\n  if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n  return this.toLong() .. (to -
1).toLong()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to:
Long): LongRange {\n  if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n  return this .. (to -
1).toLong()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to:
Long): LongRange {\n  if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n  return this.toLong() .. (to -
1).toLong()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to:
Long): LongRange {\n  if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n  return this.toLong() .. (to -
1).toLong()\n}\n\n**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to:
Short): IntRange {\n  return this .. (to.toInt() - 1).toInt()\n}\n\n**\n * Returns a range from this value up to but
excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n */\npublic infix fun Long.until(to: Short): LongRange {\n  return this .. (to.toLong() -

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1).toLong()\n\n/\*\*\n \* Returns a range from this value up to but excluding the specified [to] value.\n \* \n \* If the [to] value is less than or equal to `this` value, then the returned range is empty.\n \*/\npublic infix fun Byte.until(to: Short): IntRange {\n return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/\*\*\n \* Returns a range from this value up to but excluding the specified [to] value.\n \* \n \* If the [to] value is less than or equal to `this` value, then the returned range is empty.\n \*/\npublic infix fun Short.until(to: Short): IntRange {\n return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeastComparable\n \*/\npublic fun <T : Comparable<T>> T.coerceAtLeast(minimumValue: T): T {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeast\n \*/\npublic fun Byte.coerceAtLeast(minimumValue: Byte): Byte {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeast\n \*/\npublic fun Short.coerceAtLeast(minimumValue: Short): Short {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeast\n \*/\npublic fun Int.coerceAtLeast(minimumValue: Int): Int {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeast\n \*/\npublic fun Long.coerceAtLeast(minimumValue: Long): Long {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeast\n \*/\npublic fun Float.coerceAtLeast(minimumValue: Float): Float {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not less than the specified [minimumValue].\n \* \n \* @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtLeast\n \*/\npublic fun Double.coerceAtLeast(minimumValue: Double): Double {\n return if (this < minimumValue) minimumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not greater than the specified [maximumValue].\n \* \n \* @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtMostComparable\n \*/\npublic fun <T : Comparable<T>> T.coerceAtMost(maximumValue: T): T {\n return if (this > maximumValue) maximumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not greater than the specified [maximumValue].\n \* \n \* @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtMost\n \*/\npublic fun Byte.coerceAtMost(maximumValue: Byte): Byte {\n return if (this > maximumValue) maximumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not greater than the specified [maximumValue].\n \* \n \* @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtMost\n \*/\npublic fun Short.coerceAtMost(maximumValue: Short): Short {\n return if (this > maximumValue) maximumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not greater than the specified [maximumValue].\n \* \n \* @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n \* \n \* @sample samples.comparisons.ComparableOps.coerceAtMost\n \*/\npublic fun Int.coerceAtMost(maximumValue: Int): Int {\n return if (this > maximumValue) maximumValue else this\n}\n\n/\*\*\n \* Ensures that this value is not greater than the specified [maximumValue].\n \* \n \* @return this value if it's less than or equal to the [maximumValue] or

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the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n
*\npublic fun Long.coerceAtMost(maximumValue: Long): Long {\n  return if (this > maximumValue)\n
maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n *
\n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n *
@sample samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun
Float.coerceAtMost(maximumValue: Float): Float {\n  return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun Double.coerceAtMost(maximumValue:
Double): Double {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,
or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInComparable\n *\npublic fun
<T : Comparable<T>> T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n  if (minimumValue !== null
&& maximumValue !== null) {\n    if (minimumValue > maximumValue) throw
IllegalArgumentOutOfRangeException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this >
maximumValue) return maximumValue\n  }\n  else {\n    if (minimumValue !== null && this <
minimumValue) return minimumValue\n    if (maximumValue !== null && this > maximumValue) return
maximumValue\n  }\n  return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Byte.coerceIn(minimumValue: Byte,
maximumValue: Byte): Byte {\n  if (minimumValue > maximumValue) throw
IllegalArgumentOutOfRangeException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n  if (this < minimumValue) return minimumValue\n  if (this > maximumValue)
return maximumValue\n  return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Short.coerceIn(minimumValue: Short,
maximumValue: Short): Short {\n  if (minimumValue > maximumValue) throw
IllegalArgumentOutOfRangeException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n  if (this < minimumValue) return minimumValue\n  if (this > maximumValue)
return maximumValue\n  return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Int.coerceIn(minimumValue: Int, maximumValue:
Int): Int {\n  if (minimumValue > maximumValue) throw IllegalArgumentOutOfRangeException("Cannot coerce value to an
empty range: maximum $maximumValue is less than minimum $minimumValue.")\n  if (this < minimumValue)
return minimumValue\n  if (this > maximumValue) return maximumValue\n  return this\n}\n\n/**\n * Ensures
that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in
the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater
than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Long.coerceIn(minimumValue: Long, maximumValue: Long): Long {\n  if (minimumValue > maximumValue)
throw IllegalArgumentOutOfRangeException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n  if (this < minimumValue) return minimumValue\n  if (this > maximumValue)
return maximumValue\n  return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value

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is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *^\npublic fun Float.coerceIn(minimumValue: Float,
maximumValue: Float): Float {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *^\npublic fun Double.coerceIn(minimumValue: Double,
maximumValue: Double): Double {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInFloatingPointRange\n *^\n@SinceKotlin("1.1")\npublic fun <T :
Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T {\n    if (range.isEmpty()) throw
IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return when {\n        // this <
start equiv to this <= start && !(this >= start)\n        range.lessThanOrEqualTo(this, range.start) &&
!range.lessThanOrEqualTo(range.start, this) -> range.start\n        // this > end equiv to this >= end && !(this <= end)\n
range.lessThanOrEqualTo(range.endInclusive, this) && !range.lessThanOrEqualTo(this, range.endInclusive) ->
range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n *^\npublic fun <T : Comparable<T>>
T.coerceIn(range: ClosedRange<T>): T {\n    if (range is ClosedFloatingPointRange) {\n        return
this.coerceIn<T>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an
empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this > range.endInclusive ->
range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n
*^\npublic fun Int.coerceIn(range: ClosedRange<Int>): Int {\n    if (range is ClosedFloatingPointRange) {\n
return this.coerceIn<Int>(range)\n    }\n    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce
value to an empty range: $range.")\n    return when {\n        this < range.start -> range.start\n        this >
range.endInclusive -> range.endInclusive\n        else -> this\n    }\n}\n\n/**\n * Ensures that this value lies in the
specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than
`range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *^\npublic fun Long.coerceIn(range: ClosedRange<Long>): Long
{\n    if (range is ClosedFloatingPointRange) {\n        return this.coerceIn<Long>(range)\n    }\n    if
(range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n    return
when {\n        this < range.start -> range.start\n        this > range.endInclusive -> range.endInclusive\n        else ->
this\n    }\n}\n\n"/**\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic
value class UByte @PublishedApi internal constructor(@PublishedApi internal val data: Byte) :
Comparable<UByte> {\n    companion object {\n        /**\n         * A constant holding the minimum value an
instance of UByte can have.\n         */\n        public const val MIN_VALUE: UByte = UByte(0)\n    }\n}

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A constant holding the maximum value an instance of UByte can have.\n
MAX_VALUE: UByte = UByte(-1)\n
UByte in a binary form.\n
SIZE_BYTES: Int = 1\n
SIZE_BITS: Int = 8\n
} \n
compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n
compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n
compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n
compareTo(other: ULong): Int = this.toULong().compareTo(other)\n
plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n
plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n
plus(other: UInt): UInt = this.toUInt().plus(other)\n
plus(other: ULong): ULong = this.toULong().plus(other)\n
minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n
minus(other: UShort): UInt = this.toUInt().minus(other.toUInt())\n
minus(other: UInt): UInt = this.toUInt().minus(other)\n
minus(other: ULong): ULong = this.toULong().minus(other)\n
times(other: UByte): UInt = this.toUInt().times(other.toUInt())\n
times(other: UShort): UInt = this.toUInt().times(other.toUInt())\n
times(other: UInt): UInt = this.toUInt().times(other)\n
times(other: ULong): ULong = this.toULong().times(other)\n
div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n
div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n
div(other: UInt): UInt = this.toUInt().div(other)\n
div(other: ULong): ULong = this.toULong().div(other)\n
rem(other: UByte): UInt =

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this.toUInt().rem(other.toUInt())\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt =
this.toUInt().rem(other)\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UInt): UInt = this.toUInt().floorDiv(other)\n /**\n * Divides this value by the
other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the
results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public
inline fun floorDiv(other: ULong): ULong = this.toULong().floorDiv(other)\n\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.toUInt().mod(other.toUInt()).toUByte()\n /**\n * Calculates the remainder of flooring division of this value
by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.toUInt().mod(other.toUInt()).toUShort()\n /**\n *
Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always less
than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the
same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt =
this.toUInt().mod(other)\n /**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders of
flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun
mod(other: ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value incremented by one.\n
*/\n @sample samples.misc.Builtins.inc\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
inc(): UByte = UByte(data.inc())\n\n /**\n * Returns this value decremented by one.\n */\n @sample
samples.misc.Builtins.dec\n */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UByte =
UByte(data.dec())\n\n /**\n * Creates a range from this value to the specified [other] value.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UByte): UIntRange =
UIntRange(this.toUInt(), other.toUInt())\n\n /**\n * Performs a bitwise AND operation between the two values.\n
*/\n @kotlin.internal.InlineOnly\n public inline infix fun and(other: UByte): UByte = UByte(this.data and other.data)\n
/**\n * Performs a bitwise OR operation between the two values.\n */\n @kotlin.internal.InlineOnly\n public inline
infix fun or(other: UByte): UByte = UByte(this.data or other.data)\n\n /**\n * Performs a bitwise XOR operation
between the two values.\n */\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UByte): UByte =
UByte(this.data xor other.data)\n\n /**\n * Inverts the bits in this value.\n */\n @kotlin.internal.InlineOnly\n
public inline fun inv(): UByte = UByte(data.inv())\n\n /**\n * Converts this [UByte] value to [Byte].\n * \n * If
this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `UByte`. Otherwise the result is negative.\n * \n * The resulting `Byte` value has the

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same binary representation as this `UByte` value.
    @kotlin.internal.InlineOnly
    public inline fun
toByte(): Byte = data
    /**
     * Converts this [UByte] value to [Short].
     * The resulting `Short` value
represents the same numerical value as this `UByte`.
     * The least significant 8 bits of the resulting `Short`
value are the same as the bits of this `UByte` value,
     * whereas the most significant 8 bits are filled with zeros.
    */
    @kotlin.internal.InlineOnly
    public inline fun toShort(): Short = data.toShort() and 0xFF
    /**
     * Converts this [UByte] value to [Int].
     * The resulting `Int` value represents the same numerical value as
this `UByte`.
     * The least significant 8 bits of the resulting `Int` value are the same as the bits of this
`UByte` value,
     * whereas the most significant 24 bits are filled with zeros.
    */
    @kotlin.internal.InlineOnly
    public inline fun toInt(): Int = data.toInt() and 0xFF
    /**
     * Converts this
[UByte] value to [Long].
     * The resulting `Long` value represents the same numerical value as this
`UByte`.
     * The least significant 8 bits of the resulting `Long` value are the same as the bits of this
`UByte` value,
     * whereas the most significant 56 bits are filled with zeros.
    */
    @kotlin.internal.InlineOnly
    public inline fun toLong(): Long = data.toLong() and 0xFF
    /** Returns this
value.
    */
    @kotlin.internal.InlineOnly
    public inline fun toUByte(): UByte = this
    /**
     * Converts this
[UByte] value to [UShort].
     * The resulting `UShort` value represents the same numerical value as this
`UByte`.
     * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this
`UByte` value,
     * whereas the most significant 8 bits are filled with zeros.
    */
    @kotlin.internal.InlineOnly
    public inline fun toUShort(): UShort = UShort(data.toShort() and 0xFF)
    /**
     * Converts this [UByte] value to [UInt].
     * The resulting `UInt` value represents the same numerical value
as this `UByte`.
     * The least significant 8 bits of the resulting `UInt` value are the same as the bits of this
`UByte` value,
     * whereas the most significant 24 bits are filled with zeros.
    */
    @kotlin.internal.InlineOnly
    public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFF)
    /**
     * Converts this [UByte] value to [ULong].
     * The resulting `ULong` value represents the same numerical
value as this `UByte`.
     * The least significant 8 bits of the resulting `ULong` value are the same as the bits
of this `UByte` value,
     * whereas the most significant 56 bits are filled with zeros.
    */
    @kotlin.internal.InlineOnly
    public inline fun toULong(): ULong = ULong(data.toLong() and 0xFF)
    /**
     * Converts this [UByte] value to [Float].
     * The resulting `Float` value represents the same numerical
value as this `UByte`.
    */
    @kotlin.internal.InlineOnly
    public inline fun toFloat(): Float =
this.toInt().toFloat()
    /**
     * Converts this [UByte] value to [Double].
     * The resulting `Double`
value represents the same numerical value as this `UByte`.
    */
    @kotlin.internal.InlineOnly
    public inline
fun toDouble(): Double = this.toInt().toDouble()
    public override fun toString(): String =
toInt().toString()
}
/**
 * Converts this [Byte] value to [UByte].
 * If this value is positive, the resulting
`UByte` value represents the same numerical value as this `Byte`.
 * The resulting `UByte` value has the same
binary representation as this `Byte` value.
    */
    @SinceKotlin("1.5")
    @WasExperimental(ExperimentalUnsignedTypes::class)
    @kotlin.internal.InlineOnly
    public inline fun Byte.toUByte(): UByte = UByte(this)
    /**
     * Converts this [Short] value to [UByte].
     * If
this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents
     * the same numerical value as this `Short`.
     * The resulting `UByte` value is represented by the least significant 8
bits of this `Short` value.
    */
    @SinceKotlin("1.5")
    @WasExperimental(ExperimentalUnsignedTypes::class)
    @kotlin.internal.InlineOnly
    public inline fun Short.toUByte(): UByte = UByte(this.toByte())
    /**
     * Converts this [Int] value to [UByte].
     *
     * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value
represents
     * the same numerical value as this `Int`.
     * The resulting `UByte` value is represented by the least
significant 8 bits of this `Int` value.
    */
    @SinceKotlin("1.5")
    @WasExperimental(ExperimentalUnsignedTypes::class)
    @kotlin.internal.InlineOnly
    public inline fun Int.toUByte(): UByte = UByte(this.toByte())
    /**
     * Converts this [Long] value to [UByte].
     *
     * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value
represents
     * the same numerical value as this `Long`.
     * The resulting `UByte` value is represented by the

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least significant 8 bits of this `Long` value.

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Long.toUByte(): UByte = UByte(this.toByte())\n"/*\n * Copyright 2010-2022 JetBrains s.r.o.\n and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license\n that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage\nkotlin\n\nimport kotlin.experimental.*\nimport\nkotlin.jvm.*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic value class UInt @PublishedApi internal constructor(@PublishedApi internal val data: Int) :\n    Comparable<UInt> {\n\n    companion object {\n\n        /**\n         * A constant holding the minimum value an\n         instance of UInt can have.\n         */\n        public const val MIN_VALUE: UInt = UInt(0)\n\n        /**\n         * A\n         constant holding the maximum value an instance of UInt can have.\n         */\n        public const val MAX_VALUE:\n        UInt = UInt(-1)\n\n        /**\n         * The number of bytes used to represent an instance of UInt in a binary form.\n         */\n        public const val SIZE_BYTES: Int = 4\n\n        /**\n         * The number of bits used to represent an\n         instance of UInt in a binary form.\n         */\n        public const val SIZE_BITS: Int = 32\n    }\n\n    /**\n     * Returns zero if this value is equal to the specified other\n     value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UByte): Int =\n    this.compareTo(other.toUInt())\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value,\n     a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    compareTo(other: UShort): Int = this.compareTo(other.toUInt())\n\n    /**\n     * Compares this value with the\n     specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if\n     it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    @Suppress("OVERRIDE_BY_INLINE")\n    public override inline operator fun compareTo(other: UInt): Int =\n    uintCompare(this.data, other.data)\n\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): UInt = this.plus(other.toUInt())\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:\n    UShort): UInt = this.plus(other.toUInt())\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UInt): UInt = UInt(this.data.plus(other.data))\n\n    /**\n     * Adds the other value to this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other:\n    ULong): ULong = this.toULong().plus(other)\n\n    /**\n     * Subtracts the other value from this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UByte): UInt = this.minus(other.toUInt())\n\n    /**\n     * Subtracts the other value from this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    minus(other: UShort): UInt = this.minus(other.toUInt())\n\n    /**\n     * Subtracts the other value from this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UInt): UInt =\n    UInt(this.data.minus(other.data))\n\n    /**\n     * Subtracts the other value from this value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: ULong): ULong =\n    this.toULong().minus(other)\n\n    /**\n     * Multiplies this value by the other value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UByte): UInt = this.times(other.toUInt())\n\n    /**\n     * Multiplies this value by the\n     other value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UShort): UInt =\n    this.times(other.toUInt())\n\n    /**\n     * Multiplies this value by the other value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UInt): UInt = UInt(this.data.times(other.data))\n\n    /**\n     * Multiplies this value\n     by the other value.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: ULong): ULong =\n    this.toULong().times(other)\n\n    /**\n     * Divides this value by the other value, truncating the result to an integer that is\n     closer to zero.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UByte): UInt =
```

```

this.div(other.toUInt())\n /** Divides this value by the other value, truncating the result to an integer that is closer
to zero. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt =
this.div(other.toUInt())\n /** Divides this value by the other value, truncating the result to an integer that is closer
to zero. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt = uintDivide(this,
other)\n /** Divides this value by the other value, truncating the result to an integer that is closer to zero. */\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong =
this.toULong().div(other)\n\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UByte): UInt = this.rem(other.toUInt())\n /**\n * Calculates the remainder of
truncating division of this value by the other value.\n * \n * The result is always less than the divisor.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt = this.rem(other.toUInt())\n
/**\n * Calculates the remainder of truncating division of this value by the other value.\n * \n * The result is
always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt):
UInt = uintRemainder(this, other)\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types,
the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): UInt = this.floorDiv(other.toUInt())\n /**\n * Divides this value by the
other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the
results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public
inline fun floorDiv(other: UShort): UInt = this.floorDiv(other.toUInt())\n /**\n * Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the results
of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline
fun floorDiv(other: UInt): UInt = div(other)\n /**\n * Divides this value by the other value, flooring the result to
an integer that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and
truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other:
ULong): ULong = this.toULong().floorDiv(other)\n\n /**\n * Calculates the remainder of flooring division of
this value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned
types, the remainders of flooring division and truncating division are the same.\n */\n
@kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte = this.mod(other.toUInt()).toUByte()\n
/**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is
always less than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating
division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UShort): UShort =
this.mod(other.toUInt()).toUShort()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n public inline
fun mod(other: UInt): UInt = rem(other)\n /**\n * Calculates the remainder of flooring division of this value by
the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun mod(other: ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value
incremented by one.\n */\n @sample samples.misc.Builtins.inc\n */\n @kotlin.internal.InlineOnly\n
public inline operator fun inc(): UInt = UInt(data.inc())\n\n /**\n * Returns this value decremented by one.\n */\n
@sample samples.misc.Builtins.dec\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
dec(): UInt = UInt(data.dec())\n\n /** Creates a range from this value to the specified [other] value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UInt): UIntRange = UIntRange(this,
other)\n\n /**\n * Shifts this value left by the [bitCount] number of bits.\n * \n * Note that only the five
lowest-order bits of the [bitCount] are used as the shift distance.\n * \n * The shift distance actually used is therefore

```

```

always in the range `0..31`.
 * @kotlin.internal.InlineOnly
 public inline infix fun shl(bitCount: Int): UInt
 = UInt(data shl bitCount)
 /**
  * Shifts this value right by the [bitCount] number of bits, filling the leftmost
  bits with zeros.
  * Note that only the five lowest-order bits of the [bitCount] are used as the shift
  distance.
  * The shift distance actually used is therefore always in the range `0..31`.
  * @kotlin.internal.InlineOnly
  public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)
  /**
  Performs a bitwise AND operation between the two values.
  * @kotlin.internal.InlineOnly
  public inline infix fun and(other: UInt): UInt = UInt(this.data and other.data)
  /** Performs a bitwise OR operation between the two
  values.
  * @kotlin.internal.InlineOnly
  public inline infix fun or(other: UInt): UInt = UInt(this.data or
  other.data)
  /** Performs a bitwise XOR operation between the two values.
  * @kotlin.internal.InlineOnly
  public inline infix fun xor(other: UInt): UInt = UInt(this.data xor other.data)
  /** Inverts the bits in this value.
  * @kotlin.internal.InlineOnly
  public inline fun inv(): UInt = UInt(data.inv())
  /**
  * Converts this [UInt] value to [Byte].
  * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte`
  value represents
  * the same numerical value as this `UInt`.
  * The resulting `Byte` value is
  represented by the least significant 8 bits of this `UInt` value.
  * Note that the resulting `Byte` value may be
  negative.
  * @kotlin.internal.InlineOnly
  public inline fun toByte(): Byte = data.toByte()
  /**
  * Converts this [UInt] value to [Short].
  * If this value is less than or equals to [Short.MAX_VALUE], the
  resulting `Short` value represents
  * the same numerical value as this `UInt`.
  * The resulting `Short`
  value is represented by the least significant 16 bits of this `UInt` value.
  * Note that the resulting `Short` value
  may be negative.
  * @kotlin.internal.InlineOnly
  public inline fun toShort(): Short = data.toShort()
  /**
  * Converts this [UInt] value to [Int].
  * If this value is less than or equals to [Int.MAX_VALUE],
  the resulting `Int` value represents
  * the same numerical value as this `UInt`. Otherwise the result is negative.
  * The resulting `Int` value has the same binary representation as this `UInt` value.
  * @kotlin.internal.InlineOnly
  public inline fun toInt(): Int = data
  /**
  * Converts this [UInt] value to
  [Long].
  * The resulting `Long` value represents the same numerical value as this `UInt`.
  * The
  least significant 32 bits of the resulting `Long` value are the same as the bits of this `UInt` value,
  * whereas the
  most significant 32 bits are filled with zeros.
  * @kotlin.internal.InlineOnly
  public inline fun toLong():
  Long = data.toLong() and 0xFFFF_FFFF
  /**
  * Converts this [UInt] value to [UByte].
  * If this
  value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents
  * the same
  numerical value as this `UInt`.
  * The resulting `UByte` value is represented by the least significant 8 bits
  of this `UInt` value.
  * @kotlin.internal.InlineOnly
  public inline fun toUByte(): UByte =
  data.toUByte()
  /**
  * Converts this [UInt] value to [UShort].
  * If this value is less than or equals
  to [UShort.MAX_VALUE], the resulting `UShort` value represents
  * the same numerical value as this `UInt`.
  * The resulting `UShort` value is represented by the least significant 16 bits of this `UInt` value.
  * @kotlin.internal.InlineOnly
  public inline fun toUShort(): UShort = data.toUShort()
  /** Returns this value.
  * @kotlin.internal.InlineOnly
  public inline fun toUInt(): UInt = this
  /**
  * Converts this [UInt] value
  to [ULong].
  * The resulting `ULong` value represents the same numerical value as this `UInt`.
  * The
  least significant 32 bits of the resulting `ULong` value are the same as the bits of this `UInt` value,
  * whereas the
  most significant 32 bits are filled with zeros.
  * @kotlin.internal.InlineOnly
  public inline
  fun toULong(): ULong = ULong(data.toLong() and 0xFFFF_FFFF)
  /**
  * Converts this [UInt] value to
  [Float].
  * The resulting value is the closest `Float` to this `UInt` value.
  * In case when this `UInt`
  value is exactly between two `Float`s,
  * the one with zero at least significant bit of mantissa is selected.
  * @kotlin.internal.InlineOnly
  public inline fun toFloat(): Float = this.toDouble().toFloat()
  /**
  * Converts
  this [UInt] value to [Double].
  * The resulting `Double` value represents the same numerical value as this
  `UInt`.
  * @kotlin.internal.InlineOnly
  public inline fun toDouble(): Double = UIntToDouble(data)
  public override fun toString(): String = toLong().toString()
  /**
  * Converts this [Byte] value to [UInt].
  * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Byte`.
  * The
  least significant 8 bits of the resulting `UInt` value are the same as the bits of this `Byte` value,
  * whereas the
  most significant 24 bits are filled with the sign bit of this value.

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*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.toUInt(): UInt = UInt(this.toInt())\n/**\n * Converts this [Short] value to [UInt].\n * If\n * this value is positive, the resulting `UInt` value represents the same numerical value as this `Short`.\n * The least\n * significant 16 bits of the resulting `UInt` value are the same as the bits of this `Short` value,\n * whereas the most\n * significant 16 bits are filled with the sign bit of this value.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.toUInt(): UInt = UInt(this.toInt())\n/**\n * Converts this [Int] value to [UInt].\n * If this\n * value is positive, the resulting `UInt` value represents the same numerical value as this `Int`.\n * The resulting\n * `UInt` value has the same binary representation as this `Int` value.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Int.toUInt(): UInt = UInt(this)\n/**\n * Converts this [Long] value to [UInt].\n * If this value\n * is positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same\n * numerical value as this `Long`.\n * The resulting `UInt` value is represented by the least significant 32 bits of\n * this `Long` value.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Long.toUInt(): UInt = UInt(this.toDouble())\n/**\n * Converts this [Float] value to [UInt].\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`,\n * [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Float.toUInt(): UInt = doubleToUInt(this.toDouble())\n/**\n * Converts this [Double] value to\n * [UInt].\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is\n * negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun Double.toUInt(): UInt = doubleToUInt(this)\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o. and\n * Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\n * can be found in the license/LICENSE.txt file.\n */\n// Auto-generated file. DO NOT EDIT!\npackage\nkotlin\nimport kotlin.experimental.*\nimport\nkotlin.jvm.*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@JvmInline\npublic value class UShort @PublishedApi internal constructor(@PublishedApi internal val data: Short) :  
Comparable<UShort> {\n    companion object {\n        /**\n         * A constant holding the minimum value an\n         instance of UShort can have.\n         */\n        public const val MIN_VALUE: UShort = UShort(0)\n        /**\n         * A constant holding the maximum value an instance of UShort can have.\n         */\n        public const val\n        MAX_VALUE: UShort = UShort(-1)\n        /**\n         * The number of bytes used to represent an instance of\n         UShort in a binary form.\n         */\n        public const val SIZE_BYTES: Int = 2\n        /**\n         * The number of\n         bits used to represent an instance of UShort in a binary form.\n         */\n        public const val SIZE_BITS: Int =\n        16\n    }\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is\n     equal to the specified other value, a negative number if it's less than other,\n     * or a positive number if it's greater\n     than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UByte): Int =\n    this.toInt().compareTo(other.toInt())\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a\n     positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    @Suppress("OVERRIDE_BY_INLINE")\n    public override inline operator fun compareTo(other: UShort): Int =\n    this.toInt().compareTo(other.toInt())\n    /**\n     * Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n     * or a\n     positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n    public inline operator fun\n    compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n    /**\n     * Compares this value with the\n     specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if\n     it's less than other,\n     * or a positive number if it's greater than other.\n     */\n    @kotlin.internal.InlineOnly\n

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public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n /** Adds the
other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): UInt =
this.toUInt().plus(other.toUInt())\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n /** Adds the other value
to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UInt): UInt =
this.toUInt().plus(other)\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n /** Subtracts the other value from
this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UByte): UInt =
this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort): UInt =
this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n
/** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n
/** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value,
truncating the result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator
fun div(other: UInt): UInt = this.toUInt().div(other)\n /** Divides this value by the other value, truncating the
result to an integer that is closer to zero. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other:
ULong): ULong = this.toULong().div(other)\n\n /**\n * Calculates the remainder of truncating division of this
value by the other value.\n * \n * The result is always less than the divisor.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt =
this.toUInt().rem(other.toUInt())\n /**\n * Calculates the remainder of truncating division of this value by the
other value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n /**\n * Calculates the
remainder of truncating division of this value by the other value.\n * \n * The result is always less than the
divisor.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt =
this.toUInt().rem(other)\n /**\n * Calculates the remainder of truncating division of this value by the other
value.\n * \n * The result is always less than the divisor.\n */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /**\n * Divides this value by
the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UByte): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UShort): UInt = this.toUInt().floorDiv(other.toUInt())\n /**\n * Divides this
value by the other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned
types, the results of flooring division and truncating division are the same.\n */\n @kotlin.internal.InlineOnly\n
public inline fun floorDiv(other: UInt): UInt = this.toUInt().floorDiv(other)\n /**\n * Divides this value by the

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other value, flooring the result to an integer that is closer to negative infinity.\n * \n * For unsigned types, the
results of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public
inline fun floorDiv(other: ULong): ULong = this.toULong().floorDiv(other)\n\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte): UByte =
this.toUInt().mod(other.toUInt()).toUByte()\n\n /**\n * Calculates the remainder of flooring division of this value
by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.toUInt().mod(other.toUInt()).toUShort()\n\n /**\n *
Calculates the remainder of flooring division of this value by the other value.\n * \n * The result is always less
than the divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the
same.\n * \n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt =
this.toUInt().mod(other)\n\n /**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders of
flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun
mod(other: ULong): ULong = this.toULong().mod(other)\n\n /**\n * Returns this value incremented by one.\n
*\n * @sample samples.misc.Builtins.inc\n * \n @kotlin.internal.InlineOnly\n public inline operator fun
inc(): UShort = UShort(data.inc())\n\n /**\n * Returns this value decremented by one.\n * \n * @sample
samples.misc.Builtins.dec\n * \n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UShort =
UShort(data.dec())\n\n /** Creates a range from this value to the specified [other] value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UShort): UIntRange =
UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a bitwise AND operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun and(other: UShort): UShort = UShort(this.data and
other.data)\n\n /** Performs a bitwise OR operation between the two values. *\n @kotlin.internal.InlineOnly\n
public inline infix fun or(other: UShort): UShort = UShort(this.data or other.data)\n\n /** Performs a bitwise XOR
operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UShort):
UShort = UShort(this.data xor other.data)\n\n /** Inverts the bits in this value. *\n @kotlin.internal.InlineOnly\n
public inline fun inv(): UShort = UShort(data.inv())\n\n /**\n * Converts this [UShort] value to [Byte].\n * \n
* If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `UShort`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits
of this `UShort` value.\n * Note that the resulting `Byte` value may be negative.\n * \n @kotlin.internal.InlineOnly\n
public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [UShort]
value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents\n * the same numerical value as this `UShort`. Otherwise the result is negative.\n * \n * The
resulting `Short` value has the same binary representation as this `UShort` value.\n * \n @kotlin.internal.InlineOnly\n
public inline fun toShort(): Short = data\n\n /**\n * Converts this [UShort] value
to [Int].\n * \n * The resulting `Int` value represents the same numerical value as this `UShort`.\n * \n * The
least significant 16 bits of the resulting `Int` value are the same as the bits of this `UShort` value,\n * whereas the
most significant 16 bits are filled with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int
= data.toInt() and 0xFFFF\n\n /**\n * Converts this [UShort] value to [Long].\n * \n * The resulting `Long`
value represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting
`Long` value are the same as the bits of this `UShort` value,\n * whereas the most significant 48 bits are filled
with zeros.\n * \n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and
0xFFFF\n\n /**\n * Converts this [UShort] value to [UByte].\n * \n * If this value is less than or equals to
[UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `UShort`.\n
*\n * The resulting `UByte` value is represented by the least significant 8 bits of this `UShort` value.\n * \n
@kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n\n /** Returns this value. *\n

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@kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = this\n /**\n * Converts this [UShort]
value to [UInt].\n *\n * The resulting `UInt` value represents the same numerical value as this `UShort`.\n
*\n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `UShort` value,\n
* whereas the most significant 16 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline
fun toUInt(): UInt = UInt(data.toInt() and 0xFFFF)\n /**\n * Converts this [UShort] value to [ULong].\n *\n
* The resulting `ULong` value represents the same numerical value as this `UShort`.\n *\n * The least
significant 16 bits of the resulting `ULong` value are the same as the bits of this `UShort` value,\n * whereas the
most significant 48 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toULong():
ULong = ULong(data.toLong() and 0xFFFF)\n /**\n * Converts this [UShort] value to [Float].\n *\n *
The resulting `Float` value represents the same numerical value as this `UShort`.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toInt().toFloat()\n /**\n * Converts this
[UShort] value to [Double].\n *\n * The resulting `Double` value represents the same numerical value as this
`UShort`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double =
this.toInt().toDouble()\n\n public override fun toString(): String = toInt().toString()\n}\n\n/**\n * Converts this
[Byte] value to [UShort].\n *\n * If this value is positive, the resulting `UShort` value represents the same numerical
value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this
`Byte` value,\n * whereas the most significant 8 bits are filled with the sign bit of this value.\n
*/\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Byte.toUShort(): UShort = UShort(this.toShort())\n /**\n * Converts this [Short] value to
[UShort].\n *\n * If this value is positive, the resulting `UShort` value represents the same numerical value as this
`Short`.\n *\n * The resulting `UShort` value has the same binary representation as this `Short` value.\n
*/\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Short.toUShort(): UShort = UShort(this)\n /**\n * Converts this [Int] value to [UShort].\n *\n
* If this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n
* the same numerical value as this `Int`.\n *\n * The resulting `UShort` value is represented by the least significant 16
bits of this `Int` value.\n
*/\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Int.toUShort(): UShort = UShort(this.toShort())\n /**\n * Converts this [Long] value to
[UShort].\n *\n * If this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort`
value represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UShort` value is represented by
the least significant 16 bits of this `Long` value.\n
*/\n @SinceKotlin("1.5")\n @WasExperimental(ExperimentalUnsignedTypes::class)\n @kotlin.internal.InlineOnly\n
public inline fun Long.toUShort(): UShort = UShort(this.toShort())\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin.ranges\n\n/**\n * A range of values of type `Char`.\n */\n public class CharRange(start: Char, endInclusive:
Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {\n override val start: Char get() = first\n
override val endInclusive: Char get() = last\n\n override fun contains(value: Char): Boolean = first <= value &&
value <= last\n\n /**\n * Checks whether the range is empty.\n *\n * The range is empty if its start value is
greater than the end value.\n */\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other:
Any?): Boolean =\n other is CharRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last
== other.last\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first.code + last.code)\n\n
override fun toString(): String = "$first..$last"\n\n companion object {\n /**\n * An empty range of values of
type Char. */\n public val EMPTY: CharRange = CharRange(1.toChar(), 0.toChar())\n }\n}\n\n/**\n * A
range of values of type `Int`.\n */\n public class IntRange(start: Int, endInclusive: Int) : IntProgression(start,
endInclusive, 1), ClosedRange<Int> {\n override val start: Int get() = first\n override val endInclusive: Int get() =
last\n\n override fun contains(value: Int): Boolean = first <= value && value <= last\n\n /**\n * Checks
whether the range is empty.\n *\n * The range is empty if its start value is greater than the end value.\n */\n
}

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override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n other is
IntRange && (isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last)\n\n override fun
hashCode(): Int =\n if (isEmpty()) -1 else (31 * first + last)\n\n override fun toString(): String =
\"$first..$last\"\n\n companion object {\n /** An empty range of values of type Int. */\n public val
EMPTY: IntRange = IntRange(1, 0)\n }\n\n /**\n * A range of values of type `Long`.\n */\npublic class
LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long> {\n
override val start: Long get() = first\n override val endInclusive: Long get() = last\n\n override fun
contains(value: Long): Boolean = first <= value && value <= last\n\n /**\n * Checks whether the range is
empty.\n * The range is empty if its start value is greater than the end value.\n */\n override fun
isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n other is LongRange &&
(isEmpty() && other.isEmpty()) ||\n first == other.first && last == other.last)\n\n override fun hashCode(): Int
=\n if (isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor (last ushr 32)))\n\n override fun
toString(): String = \"$first..$last\"\n\n companion object {\n /** An empty range of values of type Long. */\n
public val EMPTY: LongRange = LongRange(1, 0)\n }\n\n /**\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n@file:OptIn(kotlin.exper
imental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\nimport
kotlin.random.Random\n\ninternal object EmptyIterator : ListIterator<Nothing> {\n override fun hasNext():
Boolean = false\n override fun hasPrevious(): Boolean = false\n override fun nextIndex(): Int = 0\n override
fun previousIndex(): Int = -1\n override fun next(): Nothing = throw NoSuchElementException()\n override fun
previous(): Nothing = throw NoSuchElementException()\n\ninternal object EmptyList : List<Nothing>,
Serializable, RandomAccess {\n private const val serialVersionUID: Long = -7390468764508069838L\n\n
override fun equals(other: Any?): Boolean = other is List<*> && other.isEmpty()\n override fun hashCode(): Int
= 1\n override fun toString(): String = \"[]\"\n\n override val size: Int get() = 0\n override fun isEmpty():
Boolean = true\n override fun contains(element: Nothing): Boolean = false\n override fun containsAll(elements:
Collection<Nothing>): Boolean = elements.isEmpty()\n\n override fun get(index: Int): Nothing = throw
IndexOutOfBoundsException(\"Empty list doesn't contain element at index $index.\")\n\n override fun
indexOf(element: Nothing): Int = -1\n override fun lastIndexOf(element: Nothing): Int = -1\n\n override fun
iterator(): Iterator<Nothing> = EmptyIterator\n\n override fun listIterator(): ListIterator<Nothing> = EmptyIterator\n
\n override fun listIterator(index: Int): ListIterator<Nothing> {\n if (index != 0) throw
IndexOutOfBoundsException(\"Index: $index\")\n return EmptyIterator\n }\n\n override fun
subList(fromIndex: Int, toIndex: Int): List<Nothing> {\n if (fromIndex == 0 && toIndex == 0) return this\n
throw IndexOutOfBoundsException(\"fromIndex: $fromIndex, toIndex: $toIndex\")\n }\n\n private fun
readResolve(): Any = EmptyList\n\ninternal fun <T> Array<out T>.asCollection(): Collection<T> =
ArrayAsCollection(this, isVarargs = false)\n\nprivate class ArrayAsCollection<T>(val values: Array<out T>, val
isVarargs: Boolean) : Collection<T> {\n override val size: Int get() = values.size\n override fun isEmpty():
Boolean = values.isEmpty()\n override fun contains(element: T): Boolean = values.contains(element)\n\n override
fun containsAll(elements: Collection<T>): Boolean = elements.all { contains(it) }\n\n override fun iterator():
Iterator<T> = values.iterator()\n // override hidden toArray implementation to prevent copying of values array\n
public fun toArray(): Array<out Any?> = values.copyOfToArrayOfAny(isVarargs)\n}\n\n/**\n * Returns an empty
read-only list. The returned list is serializable (JVM).\n */\n * @sample
samples.collections.Collections.Lists.emptyReadOnlyList\n */\npublic fun <T> emptyList(): List<T> =
EmptyList\n\n/**\n * Returns a new read-only list of given elements. The returned list is serializable (JVM).\n */
\n * @sample samples.collections.Collections.Lists.readOnlyList\n */\npublic fun <T> listOf(vararg elements: T):
List<T> = if (elements.size > 0) elements.asList() else emptyList()\n\n/**\n * Returns an empty read-only list. The
returned list is serializable (JVM).\n */\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> listOf(): List<T> = emptyList()\n\n/**\n * Returns an empty

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new [MutableList].\n * @sample samples.collections.Collections.Lists.emptyMutableList\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableListOf(): MutableList<T> =
ArrayList()\n\n**\n * Returns an empty new [ArrayList].\n * @sample
samples.collections.Collections.Lists.emptyArrayList\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> arrayListOf(): ArrayList<T> =
ArrayList()\n\n**\n * Returns a new [MutableList] with the given elements.\n * @sample
samples.collections.Collections.Lists.mutableList\n *\npublic fun <T> mutableListOf(vararg elements: T):
MutableList<T> =\n if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs =
true))\n\n**\n * Returns a new [ArrayList] with the given elements.\n * @sample
samples.collections.Collections.Lists.arrayList\n *\npublic fun <T> arrayListOf(vararg elements: T): ArrayList<T>
=\n if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n**\n *
Returns a new read-only list either of single given element, if it is not null, or empty list if the element is null. The
returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n *\npublic fun
<T : Any> listOfNotNull(element: T?): List<T> = if (element != null) listOf(element) else emptyList()\n\n**\n *
Returns a new read-only list only of those given elements, that are not null. The returned list is serializable
(JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n *\npublic fun <T : Any>
listOfNotNull(vararg elements: T?): List<T> = elements.filterNotNull()\n\n**\n * Creates a new read-only list with
the specified [size], where each element is calculated by calling the specified\n * [init] function.\n * The
function [init] is called for each list element sequentially starting from the first one.\n * It should return the value for
a list element given its index.\n * @sample samples.collections.Collections.Lists.readOnlyListFromInitializer\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> List(size: Int, init: (index: Int) -> T):
List<T> = MutableList(size, init)\n\n**\n * Creates a new mutable list with the specified [size], where each element
is calculated by calling the specified\n * [init] function.\n * The function [init] is called for each list element
sequentially starting from the first one.\n * It should return the value for a list element given its index.\n *
@sample samples.collections.Collections.Lists.mutableListFromInitializer\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> MutableList(size: Int, init: (index:
Int) -> T): MutableList<T> {\n val list = ArrayList<T>(size)\n repeat(size) { index -> list.add(init(index)) }\n
return list\n}\n\n**\n * Builds a new read-only [List] by populating a [MutableList] using the given
[builderAction]\n * and returning a read-only list with the same elements.\n * The list passed as a receiver to the
[builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified
behavior.\n * The returned list is serializable (JVM).\n * @sample
samples.collections.Builders.Lists.buildListSample\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <E> buildList(@BuilderInference builderAction: MutableList<E>().->Unit): List<E> {\n contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return
buildListInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal
expect inline fun <E> buildListInternal(builderAction: MutableList<E>().->Unit): List<E>\n\n**\n * Builds a
new read-only [List] by populating a [MutableList] using the given [builderAction]\n * and returning a read-only list
with the same elements.\n * The list passed as a receiver to the [builderAction] is valid only inside that
function.\n * Using it outside of the function produces an unspecified behavior.\n * The returned list is
serializable (JVM).\n * [capacity] is used to hint the expected number of elements added in the
[builderAction].\n * @throws IllegalArgumentException if the given [capacity] is negative.\n * @sample
samples.collections.Builders.Lists.buildListSampleWithCapacity\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
inline fun <E> buildList(capacity: Int, @BuilderInference builderAction: MutableList<E>().->Unit): List<E> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return buildListInternal(capacity,
builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal expect inline
fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>().->Unit): List<E>\n\n**\n * Returns an

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[IntRange] of the valid indices for this collection.\n * @sample
samples.collections.Collections.Collections.indicesOfCollection\n * \npublic val Collection<*>.indices: IntRange\n
get() = 0..size - 1\n\n/**\n * Returns the index of the last item in the list or -1 if the list is empty.\n * \n * @sample
samples.collections.Collections.Collections.lastIndexOfList\n * \npublic val <T> List<T>.lastIndex: Int\n
get() =
this.size - 1\n\n/**\n * Returns `true` if the collection is not empty.\n * \n * @sample
samples.collections.Collections.Collections.collectionIsNotEmpty\n * \n@kotlin.internal.InlineOnly\npublic inline
fun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable collection is
either null or empty.\n * \n * @sample samples.collections.Collections.Collections.collectionIsNullOrEmpty\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.isNullOrEmpty():
Boolean {\n
contract {\n
returns(false) implies (this@isNullOrEmpty != null)\n
}\n
return this == null ||
this.isEmpty()\n}\n\n/**\n * Returns this Collection if it's not `null` and the empty list otherwise.\n * \n * @sample
samples.collections.Collections.Collections.collectionOrElse\n * \n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>?.orElse(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's not `null` and
the empty list otherwise.\n * \n * @sample samples.collections.Collections.Collections.listOrElse\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orElse(): List<T> = this ?: emptyList()\n\n/**\n
* Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is
empty.\n * \n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->
R): R where C : Collection<*>, C : R =\n
if (isEmpty()) defaultValue() else this\n\n/**\n * Checks if all
elements in the specified collection are contained in this collection.\n * \n * Allows to overcome type-safety
restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * \n * @sample
samples.collections.Collections.Collections.collectionContainsAll\n
*\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T>
Collection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\n/**\n * Returns a
new list with the elements of this list randomly shuffled\n * using the specified [random] instance as the source of
randomness.\n * \n * \n@SinceKotlin("1.3")\npublic fun <T> Iterable<T>.shuffled(random: Random): List<T> =
toMutableList().apply { shuffle(random) }\n\n\ninternal fun <T> List<T>.optimizeReadOnlyList() = when (size) {\n
0 -> emptyList()\n
1 -> listOf(this[0])\n
else -> this\n}\n\n/**\n * Searches this list or its range for the provided
[element] using the binary search algorithm.\n * \n * The list is expected to be sorted into ascending order according
to the Comparable natural ordering of its elements,\n * otherwise the result is undefined.\n * \n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n * \n * `null`
value is considered to be less than any non-null value.\n * \n * @return the index of the element, if it is contained
in the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * \n * The
insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted.\n * \n * @sample
samples.collections.Collections.Collections.binarySearchOnComparable\n * \n * @sample
samples.collections.Collections.Collections.binarySearchWithBoundaries\n * \npublic fun <T : Comparable<T>>
List<T?>.binarySearch(element: T?, fromIndex: Int = 0, toIndex: Int = size): Int {\n
rangeCheck(size, fromIndex,
toIndex)\n
var low = fromIndex\n
var high = toIndex - 1\n
while (low <= high) {\n
val mid = (low +
high).ushr(1) // safe from overflows\n
val midVal = get(mid)\n
val cmp = compareValues(midVal,
element)\n
if (cmp < 0)\n
low = mid + 1\n
else if (cmp > 0)\n
high = mid - 1\n
else\n
return mid // key found\n
}\n
return -(low + 1) // key not found\n}\n\n/**\n * Searches this list or its range
for the provided [element] using the binary search algorithm.\n * \n * The list is expected to be sorted into ascending
order according to the specified [comparator],\n * otherwise the result is undefined.\n * \n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n * \n * `null`
value is considered to be less than any non-null value.\n * \n * @return the index of the element, if it is contained
in the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * \n * The

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insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted according to the specified [comparator].\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparator\n *\npublic fun <T>
List<T>.binarySearch(element: T, comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Int {\n
rangeCheck(size, fromIndex, toIndex)\n\n    var low = fromIndex\n    var high = toIndex - 1\n\n    while (low <=
high) {\n        val mid = (low + high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp =
comparator.compare(midVal, element)\n\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n            return mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n/**\n * Searches this list or its range for an element having the key returned by the specified [selector] function\n * equal to
the provided [key] value using the binary search algorithm.\n * The list is expected to be sorted into ascending order
according to the Comparable natural ordering of keys of its elements.\n * otherwise the result is undefined.\n *\n * If
the list contains multiple elements with the specified [key], there is no guarantee which one will be found.\n *\n *
`null` value is considered to be less than any non-null value.\n *\n * @return the index of the element with the
specified [key], if it is contained in the list within the specified range;\n * otherwise, the inverted insertion point
`(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so
that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchByKey\n *\npublic inline fun <T, K : Comparable<K>>
List<T>.binarySearchBy(\n    key: K?,\n    fromIndex: Int = 0,\n    toIndex: Int = size,\n    crossinline selector: (T) ->
K?):\n    Int =\n    binarySearch(fromIndex, toIndex) { compareValues(selector(it), key) }\n\n// do not introduce this
overload --- too rare\n//\npublic fun <T, K> List<T>.binarySearchBy(key: K, comparator: Comparator<K>,\n    fromIndex:
Int = 0, toIndex: Int = size(), selector: (T) -> K): Int =\n    //\n    binarySearch(fromIndex, toIndex) {\n        comparator.compare(selector(it), key) }\n\n\n/**\n * Searches this list or its range for an element for which the
given [comparison] function returns zero using the binary search algorithm.\n *\n * The list is expected to be sorted
so that the signs of the [comparison] function's return values ascend on the list elements,\n * i.e. negative values
come before zero and zeroes come before positive values.\n * Otherwise, the result is undefined.\n *\n * If the list
contains multiple elements for which [comparison] returns zero, there is no guarantee which one will be found.\n *\n
* @param comparison function that returns zero when called on the list element being searched.\n * On the
elements coming before the target element, the function must return negative values;\n * on the elements coming
after the target element, the function must return positive values.\n *\n * @return the index of the found element, if
it is contained in the list within the specified range;\n * otherwise, the inverted insertion point
`(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so
that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparisonFunction\n *\npublic fun <T>
List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {\n    rangeCheck(size,
fromIndex, toIndex)\n\n    var low = fromIndex\n    var high = toIndex - 1\n\n    while (low <= high) {\n        val mid
= (low + high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp = comparison(midVal)\n\n
        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n            return
mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n\n/**\n * Checks that `from` and `to` are in\n * the
range of [0..size] and throws an appropriate exception, if they aren't.\n *\nprivate fun rangeCheck(size: Int,
fromIndex: Int, toIndex: Int) {\n    when {\n        fromIndex > toIndex -> throw
IllegalArgumentException("fromIndex ($fromIndex) is greater than toIndex ($toIndex).")\n        fromIndex < 0 ->
throw IndexOutOfBoundsException("fromIndex ($fromIndex) is less than zero.")\n        toIndex > size -> throw
IndexOutOfBoundsException("toIndex ($toIndex) is greater than size ($size).")\n    }\n}\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkIndexOverflow(index: Int):
Int\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkCountOverflow(count: Int):
Int\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun throwIndexOverflow() {\n    throw
ArithmeticException("Index overflow has happened.") }\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun
throwCountOverflow() {\n    throw ArithmeticException("Count overflow has happened.") }\n\n\n", /*\n * Copyright

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*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\nprivate object EmptyMap : Map<Any?, Nothing>, Serializable {
    private const val serialVersionUID: Long = 8246714829545688274\n\n    override fun equals(other: Any?): Boolean = other is Map<*, *> && other.isEmpty()\n    override fun hashCode(): Int = 0\n    override fun toString(): String = "{}"\n\n    override val size: Int get() = 0\n    override fun isEmpty(): Boolean = true\n\n    override fun containsKey(key: Any?): Boolean = false\n    override fun containsValue(value: Nothing): Boolean = false\n    override fun get(key: Any?): Nothing? = null\n    override val entries: Set<Map.Entry<Any?, Nothing>> get() = EmptySet\n    override val keys: Set<Any?> get() = EmptySet\n    override val values: Collection<Nothing> get() = EmptyList\n\n    private fun readResolve(): Any = EmptyMap\n}\n\n/**\n * Returns an empty read-only map of specified type.\n * \n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n\npublic fun <K, V> emptyMap(): Map<K, V> = @Suppress("UNCHECKED_CAST") (EmptyMap as Map<K, V>)\n\n/**\n * Returns a new read-only map with the specified contents, given as a list of pairs\n * where the first value is the key and the second is the value.\n * \n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n * \n * Entries of the map are iterated in the order they were specified.\n * \n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n */\n\npublic fun <K, V> mapOf(vararg pairs: Pair<K, V>): Map<K, V> =\n    if (pairs.size > 0) pairs.toMap(LinkedHashMap(mapCapacity(pairs.size))) else emptyMap()\n\n/**\n * Returns an empty read-only map.\n * \n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n * \n * The returned map preserves the entry iteration order.\n * @sample samples.collections.Maps.Instantiation.emptyMutableMap\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mutableMapOf(): MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n * \n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n * \n * Entries of the map are iterated in the order they were specified.\n * \n * @sample samples.collections.Maps.Instantiation.mutableMapFromPairs\n * @sample samples.collections.Maps.Instantiation.emptyMutableMap\n */\n\npublic fun <K, V> mutableMapOf(vararg pairs: Pair<K, V>): MutableMap<K, V> =\n    LinkedHashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [HashMap].\n * \n * @sample samples.collections.Maps.Instantiation.emptyHashMap\n */\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> hashMapOf(): HashMap<K, V> = HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n * \n * @sample samples.collections.Maps.Instantiation.hashMapFromPairs\n */\n\npublic fun <K, V> hashMapOf(vararg pairs: Pair<K, V>): HashMap<K, V> = HashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [LinkedHashMap].\n * \n * @SinceKotlin("1.1")\n * @kotlin.internal.InlineOnly\n * public inline fun <K, V> linkedMapOf(): LinkedHashMap<K, V> = LinkedHashMap<K, V>()\n * \n * Returns a new [LinkedHashMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n * \n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n * \n * Entries of the map are iterated in the order they were specified.\n * \n * @sample samples.collections.Maps.Instantiation.linkedMapFromPairs\n */\n\npublic fun <K, V> linkedMapOf(vararg pairs: Pair<K, V>): LinkedHashMap<K, V> = pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and returning a read-only map with the same key-value pairs.\n * \n * The map passed as a receiver to the [builderAction] is valid only inside

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that function.  
 \* Using it outside of the function produces an unspecified behavior.  
 \* Entries of the map are iterated in the order they were added by the [builderAction].  
 \* The returned map is serializable (JVM).  
 \* @sample samples.collections.Builders.Maps.buildMapSample

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*^@SinceKotlin("1.6")@WasExperimental(ExperimentalStdlibApi::class)@kotlin.internal.InlineOnly\npublic
c inline fun <K, V> buildMap(@BuilderInference builderAction: MutableMap<K, V>().->Unit): Map<K, V> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return
buildMapInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")@kotlin.internal.InlineOnly\ninternal expect inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>().->Unit): Map<K,
V>\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and
returning a read-only map with the same key-value pairs.\n * The map passed as a receiver to the
[builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified
behavior.\n * [capacity] is used to hint the expected number of pairs added in the [builderAction].\n * Entries
of the map are iterated in the order they were added by the [builderAction].\n * The returned map is serializable
(JVM).\n * @throws IllegalArgumentException if the given [capacity] is negative.\n * @sample
samples.collections.Builders.Maps.buildMapSample\n
*^@SinceKotlin("1.6")@WasExperimental(ExperimentalStdlibApi::class)@kotlin.internal.InlineOnly\npublic
c inline fun <K, V> buildMap(capacity: Int, @BuilderInference builderAction: MutableMap<K, V>().->Unit):
Map<K, V> {\n contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return
buildMapInternal(capacity,
builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")@kotlin.internal.InlineOnly\ninternal expect inline
fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>().->Unit): Map<K, V>\n\n/**\n *
Calculate the initial capacity of a map.\n *^@PublishedApi\ninternal expect fun mapCapacity(expectedSize: Int):
Int\n\n/**\n * Returns `true` if this map is not empty.\n * @sample
samples.collections.Maps.Usage.mapIsNotEmpty\n *^@kotlin.internal.InlineOnly\npublic inline fun <K, V>
Map<out K, V>.isEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable map is either null or
empty.\n * @sample samples.collections.Maps.Usage.mapIsNullOrEmpty\n
*^@SinceKotlin("1.3")@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>?.isNullOrEmpty(): Boolean {\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n\n
return this == null || isEmpty()\n}\n\n/**\n * Returns the [Map] if its not `null`, or the empty [Map] otherwise.\n
*\n * @sample samples.collections.Maps.Usage.mapOrElse\n *^@kotlin.internal.InlineOnly\npublic inline fun
<K, V> Map<K, V>?.orElse(): Map<K, V> = this ?: emptyMap()\n\n/**\n * Returns this map if it's not empty\n *
or the result of calling [defaultValue] function if the map is empty.\n * @sample
samples.collections.Maps.Usage.mapIfEmpty\n *^@SinceKotlin("1.3")@kotlin.internal.InlineOnly\npublic
inline fun <M, R> M.ifEmpty(defaultValue: () -> R): R where M : Map<*, *>, M : R =\n if (isEmpty())
defaultValue() else this\n\n/**\n * Checks if the map contains the given key.\n * This method allows to use the
`x in map` syntax for checking whether an object is contained in the map.\n * @sample
samples.collections.Maps.Usage.containsKey\n *^@kotlin.internal.InlineOnly\npublic inline operator fun
<@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.contains(key: K): Boolean = containsKey(key)\n\n/**\n *
Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.\n
*\n *^@kotlin.internal.InlineOnly\npublic inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K,
V>.get(key: K): V? =\n @Suppress("UNCHECKED_CAST") (this as Map<K, V>).get(key)\n\n/**\n * Allows
to use the index operator for storing values in a mutable map.\n *^@kotlin.internal.InlineOnly\npublic inline
operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit {\n put(key, value)\n}\n\n/**\n * Returns
`true` if the map contains the specified [key].\n * Allows to overcome type-safety restriction of `containsKey`
that requires to pass a key of type `K`.\n *^@kotlin.internal.InlineOnly\npublic inline fun
<@kotlin.internal.OnlyInputTypes K> Map<out K, *>.containsKey(key: K): Boolean =\n
@Suppress("UNCHECKED_CAST") (this as Map<K, *>).containsKey(key)\n\n/**\n * Returns `true` if the map
maps one or more keys to the specified [value].\n * Allows to overcome type-safety restriction of

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`containsValue` that requires to pass a value of type `V`.
samples.collections.Maps.Usage.containsValue
// false warning, extension takes precedence in some cases
@kotlin.internal.InlineOnly
public inline fun <K,
@kotlin.internal.OnlyInputTypes V> Map<K, V>.containsValue(value: V): Boolean =
this.containsValue(value)
Remove the specified key and its corresponding value from this map.
@return the previous value associated with the key, or `null` if the key was not present in the map.
Allows to overcome type-safety restriction of `remove` that requires to pass a key of type `K`.
@kotlin.internal.InlineOnly
public inline fun <@kotlin.internal.OnlyInputTypes K, V> MutableMap<out K,
V>.remove(key: K): V? = @Suppress("UNCHECKED_CAST") (this as MutableMap<K,
V>).remove(key)
Returns the key component of the map entry.
This method allows to use destructuring declarations when working with maps, for example:
for ((key, value) in map) {
// do something with the key and the value
}
@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map.Entry<K, V>.component1(): K = key
Returns the value component of the map entry.
This method allows to use destructuring declarations when working with maps, for example:
for ((key, value) in map) {
// do something with the key and the value
}
@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map.Entry<K, V>.component2(): V =
value
Converts entry to [Pair] with key being first component and value being second.
@kotlin.internal.InlineOnly
public inline fun <K, V> Map.Entry<K, V>.toPair(): Pair<K, V> = Pair(key,
value)
Returns the value for the given key, or the result of the [defaultValue] function if there was no
entry for the given key.
@sample samples.collections.Maps.Usage.getOrNull
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<K, V>.getOrNull(key: K, defaultValue: () -> V): V
= get(key) ?: defaultValue()
internal inline fun <K, V> Map<K, V>.getOrNullNullable(key: K, defaultValue: ()
-> V): V {
val value = get(key)
if (value == null && !containsKey(key)) {
return defaultValue()
}
else {
@Suppress("UNCHECKED_CAST")
return value as V
}
}
Returns the value for the given [key] or throws an exception if there is no such key in the map.
If the map was created by [withDefault], resorts to its `defaultValue` provider function
instead of throwing an exception.
@throws NoSuchElementException when the map doesn't contain a value for the specified key and
no implicit default value was provided for that map.
@SinceKotlin("1.1")
public fun <K, V> Map<K, V>.getValue(key: K): V
= getOrImplicitDefault(key)
Returns the value for the given key. If the key is not found in the map, calls
the [defaultValue] function, puts its result into the map under the given key and returns it.
Note that the operation is not guaranteed to be atomic if the map is being modified concurrently.
@sample
samples.collections.Maps.Usage.getOrPut
public inline fun <K, V> MutableMap<K, V>.getOrPut(key: K,
defaultValue: () -> V): V {
val value = get(key)
return if (value == null) {
val answer =
defaultValue()
put(key, answer)
answer
} else {
value
}
}
Returns an [Iterator] over the entries in the [Map].
@sample samples.collections.Maps.Usage.forOverEntries
@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map<out K, V>.iterator():
Iterator<Map.Entry<K, V>> = entries.iterator()
Returns a [MutableIterator] over the mutable entries in
the [MutableMap].
@kotlin.jvm.JvmName("mutableIterator")
@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K, V>> =
entries.iterator()
Populates the given [destination] map with entries having the keys of this map and the
values obtained by applying the [transform] function to each entry in this [Map].
public inline fun <K, V,
R, M : MutableMap<in K, in R>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K, V>) ->
R): M {
return entries.associateByTo(destination, { it.key }, transform)
}
Populates the given [destination] map with entries having the keys obtained by applying the [transform] function to each entry in this
[Map] and the values of this map.
In case if any two entries are mapped to the equal keys, the value of the
latter one will overwrite the value associated with the former one.
public inline fun <K, V, R, M :
MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M
{
return entries.associateByTo(destination, transform, { it.value })
}
Puts all the given [pairs] into

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this [MutableMap] with the first component in the pair being the key and the second the value.
public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Array<out Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}
* Puts all the elements of the given collection into this [MutableMap] with the first component in the pair being the key and the second the value.
public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}
* Puts all the elements of the given sequence into this [MutableMap] with the first component in the pair being the key and the second the value.
public fun <K, V> MutableMap<in K, in V>.putAll(pairs: Sequence<Pair<K, V>>): Unit {
    for ((key, value) in pairs) {
        put(key, value)
    }
}
* Returns a new map with entries having the keys of this map and the values obtained by applying the [transform] function to each entry in this [Map].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.maps.transformations.mapValues
public inline fun <K, V, R> Map<out K, V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {
    return mapValuesTo(LinkedHashMap<K, R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()
}
* Returns a new Map with entries having the keys obtained by applying the [transform] function to each entry in this [Map] and the values of this map.
* In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite the value associated with the former one.
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.maps.transformations.mapKeys
public inline fun <K, V, R> Map<out K, V>.mapKeys(transform: (Map.Entry<K, V>) -> R): Map<R, V> {
    return mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()
}
* Returns a map containing all key-value pairs with keys matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.maps.filtering.filterKeys
public inline fun <K, V> Map<out K, V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {
    val result = LinkedHashMap<K, V>()
    for (entry in this) {
        if (predicate(entry.key)) {
            result.put(entry.key, entry.value)
        }
    }
    return result
}
* Returns a map containing all key-value pairs with values matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.maps.filtering.filterValues
public inline fun <K, V> Map<out K, V>.filterValues(predicate: (V) -> Boolean): Map<K, V> {
    val result = LinkedHashMap<K, V>()
    for (entry in this) {
        if (predicate(entry.value)) {
            result.put(entry.key, entry.value)
        }
    }
    return result
}
* Appends all entries matching the given [predicate] into the mutable map given as [destination] parameter.
* @return the destination map.
@sample samples.collections.maps.filtering.filterTo
public inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {
    for (element in this) {
        if (predicate(element)) {
            destination.put(element.key, element.value)
        }
    }
    return destination
}
* Returns a new map containing all key-value pairs matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.maps.filtering.filter
public inline fun <K, V> Map<out K, V>.filter(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {
    return filterTo(LinkedHashMap<K, V>(), predicate)
}
* Appends all entries not matching the given [predicate] into the given [destination].
* @return the destination map.
@sample samples.collections.maps.filtering.filterNotTo
public inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {
    for (element in this) {
        if (!predicate(element)) {
            destination.put(element.key, element.value)
        }
    }
    return destination
}
* Returns a new map containing all key-value pairs not matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.maps.filtering.filterNot
public inline fun <K, V> Map<out K, V>.filterNot(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {
    return filterNotTo(LinkedHashMap<K, V>(), predicate)
}
* Returns a new map containing all key-value pairs from the given collection of pairs.
* The returned map preserves the entry iteration order of the original collection.
* If any of two pairs would have the same key the last one gets added to the map.
public fun <K, V> Iterable<Pair<K, V>>.toMap(): Map<K, V>

```

```

{\n  if (this is Collection) {\n      return when (size) {\n          0 -> emptyMap()\n          1 -> mapOf(if (this is List) this[0] else iterator().next())\n          else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n      }\n  }\n  return toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given collection of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Iterable<Pair<K, V>>.toMap(destination: M): M =\n  destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new map containing all key-value pairs from the given array of pairs.\n */\n * The returned map preserves the entry iteration order of the original array.\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Array<out Pair<K, V>>.toMap(): Map<K, V> = when (size) {\n  0 -> emptyMap()\n  1 -> mapOf(this[0])\n  else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given array of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Array<out Pair<K, V>>.toMap(destination: M): M =\n  destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new map containing all key-value pairs from the given sequence of pairs.\n */\n * The returned map preserves the entry iteration order of the original sequence.\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> = toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given sequence of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K, V>>.toMap(destination: M): M =\n  destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new read-only map containing all key-value pairs from the original map.\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic fun <K, V> Map<out K, V>.toMap(): Map<K, V> = when (size) {\n  0 -> emptyMap()\n  1 -> toSingletonMap()\n  else -> toMutableMap()\n}\n\n/**\n * Returns a new mutable map containing all key-value pairs from the original map.\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic fun <K, V> Map<out K, V>.toMutableMap(): MutableMap<K, V> = LinkedHashMap(this)\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given map.\n */\n@SinceKotlin("1.1")\npublic fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.toMap(destination: M): M =\n  destination.apply { putAll(this@toMap) }\n\n/**\n * Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n * The [pair] is iterated in the end if it has a unique key.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> =\n  if (this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply { put(pair.first, pair.second) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] collection.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Iterable<Pair<K, V>>): Map<K, V> =\n  if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> =\n  if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given sequence of key-value [pairs].\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Sequence<Pair<K, V>>): Map<K, V> =\n  LinkedHashMap(this).apply { putAll(pairs) }.optimizeReadOnlyMap()\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from another [map].\n */\n * The returned map preserves the entry iteration order of the original map.\n */\n * Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].\n */\npublic operator fun <K, V> Map<out K, V>.plus(map: Map<out K, V>): Map<K, V> =\n  LinkedHashMap(this).apply { putAll(map) }\n\n/**\n * Appends or replaces the given [pair] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V>

```

```

MutableMap<in K, in V>.plusAssign(pair: Pair<K, V>) { \n  put(pair.first, pair.second)\n }\n\n/**\n * Appends or
replaces all pairs from the given collection of [pairs] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic
inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Iterable<Pair<K, V>>) { \n
putAll(pairs)\n }\n\n/**\n * Appends or replaces all pairs from the given array of [pairs] in this mutable map.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs:
Array<out Pair<K, V>>) { \n  putAll(pairs)\n }\n\n/**\n * Appends or replaces all pairs from the given sequence of
[pairs] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in
K, in V>.plusAssign(pairs: Sequence<Pair<K, V>>) { \n  putAll(pairs)\n }\n\n/**\n * Appends or replaces all
entries from the given [map] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K,
V> MutableMap<in K, in V>.plusAssign(map: Map<K, V>) { \n  putAll(map)\n }\n\n/**\n * Returns a map
containing all entries of the original map except the entry with the given [key].\n */\n * The returned map preserves
the entry iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K,
V>.minus(key: K): Map<K, V> =\n  this.toMutableMap().apply { minusAssign(key)
}\n\noptimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n
* the keys of which are contained in the given [keys] collection.\n */\n * The returned map preserves the entry
iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K,
V>.minus(keys: Iterable<K>): Map<K, V> =\n  this.toMutableMap().apply { minusAssign(keys)
}\n\noptimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n
* the keys of which are contained in the given [keys] array.\n */\n * The returned map preserves the entry iteration
order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K, V>.minus(keys:
Array<out K>): Map<K, V> =\n  this.toMutableMap().apply { minusAssign(keys)
}\n\noptimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n
* the keys of which are contained in the given [keys] sequence.\n */\n * The returned map preserves the entry
iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K,
V>.minus(keys: Sequence<K>): Map<K, V> =\n  this.toMutableMap().apply { minusAssign(keys)
}\n\noptimizeReadOnlyMap()\n\n/**\n * Removes the entry with the given [key] from this mutable map.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(key: K) { \n  remove(key)\n }\n\n/**\n * Removes all entries the keys of which are contained in
the given [keys] collection from this mutable map.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(keys: Iterable<K>) { \n  this.keys.removeAll(keys)\n }\n\n/**\n * Removes all entries the keys of
which are contained in the given [keys] array from this mutable map.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(keys: Array<out K>) { \n  this.keys.removeAll(keys)\n }\n\n/**\n * Removes all entries from the
keys of which are contained in the given [keys] sequence from this mutable map.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K,
V>.minusAssign(keys: Sequence<K>) { \n  this.keys.removeAll(keys)\n }\n\n\n// do not expose for now
@PublishedApi\ninternal fun <K, V> Map<K, V>.optimizeReadOnlyMap() = when (size) { \n  0 -> emptyMap()\n
1 -> toSingletonMapOrSelf()\n  else -> this\n }\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SetsKt")\n@file:OptIn(kotlin.experimenta
l.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\ninternal object
EmptySet : Set<Nothing>, Serializable { \n  private const val serialVersionUID: Long =
3406603774387020532\n\n  override fun equals(other: Any?): Boolean = other is Set<*> && other.isEmpty()\n
  override fun hashCode(): Int = 0\n  override fun toString(): String = "[]"\n\n  override val size: Int get() = 0\n
  override fun isEmpty(): Boolean = true\n  override fun contains(element: Nothing): Boolean = false\n  override
fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n\n  override fun iterator():

```

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Iterator<Nothing> = EmptyIterator\n\n private fun readResolve(): Any = EmptySet\n}\n\n/**\n * Returns an
empty read-only set. The returned set is serializable (JVM).\n * @sample
samples.collections.Collections.Sets.emptyReadOnlySet\n * ^\npublic fun <T> emptySet(): Set<T> =
EmptySet\n}\n\n/**\n * Returns a new read-only set with the given elements.\n * Elements of the set are iterated in the
order they were specified.\n * The returned set is serializable (JVM).\n * @sample
samples.collections.Collections.Sets.readOnlySet\n * ^\npublic fun <T> setOf(vararg elements: T): Set<T> = if
(elements.size > 0) elements.toSet() else emptySet()\n}\n\n/**\n * Returns an empty read-only set. The returned set is
serializable (JVM).\n * @sample samples.collections.Collections.Sets.emptyReadOnlySet\n
* ^\n@kotlin.internal.InlineOnly\npublic inline fun <T> setOf(): Set<T> = emptySet()\n}\n\n/**\n * Returns an empty
new [MutableSet].\n * The returned set preserves the element iteration order.\n * @sample
samples.collections.Collections.Sets.emptyMutableSet\n
* ^\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableSetOf(): MutableSet<T> =
LinkedHashSet()\n}\n\n/**\n * Returns a new [MutableSet] with the given elements.\n * Elements of the set are
iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.mutableSet\n * ^\npublic
fun <T> mutableSetOf(vararg elements: T): MutableSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n}\n\n/**\n * Returns an empty new [HashSet].
*\n * @sample samples.collections.Collections.Sets.mutableSet\n * ^\npublic inline fun <T> hashSetOf(): HashSet<T> =
HashSet()\n}\n\n/**\n * Returns a new [HashSet] with the given elements. *\n * @sample samples.collections.Collections.Sets.mutableSet\n * ^\npublic fun <T> hashSetOf(vararg elements:
T): HashSet<T> = elements.toCollection(HashSet(mapCapacity(elements.size)))\n}\n\n/**\n * Returns an empty new
[LinkedHashSet].\n * @sample samples.collections.Collections.Sets.emptyLinkedHashSet\n
* ^\n@kotlin.internal.InlineOnly\npublic inline fun <T> linkedSetOf(): LinkedHashSet<T>
= LinkedHashSet()\n}\n\n/**\n * Returns a new [LinkedHashSet] with the given elements.\n * Elements of the set are
iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.linkedHashSet\n
* ^\npublic fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> =
elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n}\n\n/**\n * Returns a new read-only set either
with single given element, if it is not null, or empty set if the element is null.\n * The returned set is serializable
(JVM).\n * @sample samples.collections.Collections.Sets.setOfNotNull\n * ^\n@kotlin.internal.InlineOnly\npublic fun <T : Any>
setOfNotNull(element: T?): Set<T> = if (element != null) setOf(element) else emptySet()\n}\n\n/**\n * Returns
a new read-only set only with those given elements, that are not null.\n * Elements of the set are iterated in the order
they were specified.\n * The returned set is serializable (JVM).\n * @sample
samples.collections.Collections.Sets.setOfNotNull\n * ^\n@kotlin.internal.InlineOnly\npublic fun <T : Any>
setOfNotNull(vararg elements: T?): Set<T> {\n return elements.filterNotNullTo(LinkedHashSet())\n}\n\n/**\n *
Builds a new read-only [Set] by populating a [MutableSet] using the given [builderAction]\n * and returning a read-
only set with the same elements.\n * The set passed as a receiver to the [builderAction] is valid only inside that
function.\n * Using it outside of the function produces an unspecified behavior.\n * Elements of the set are
iterated in the order they were added by the [builderAction].\n * The returned set is serializable (JVM).\n * @sample
samples.collections.Builders.Sets.buildSetSample\n
* ^\n@kotlin.internal.InlineOnly\npublic inline fun <E> buildSet(@BuilderInference builderAction: MutableSet<E>.() -> Unit): Set<E> {\n contract {
callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return
buildSetInternal(builderAction)\n}\n\n@PublishedApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildSetInternal(builderAction: MutableSet<E>.() -> Unit): Set<E>\n}\n\n/**\n * Builds a
new read-only [Set] by populating a [MutableSet] using the given [builderAction]\n * and returning a read-only set
with the same elements.\n * The set passed as a receiver to the [builderAction] is valid only inside that
function.\n * Using it outside of the function produces an unspecified behavior.\n * [capacity] is used to hint the
expected number of elements added in the [builderAction].\n * Elements of the set are iterated in the order they
were added by the [builderAction].\n * The returned set is serializable (JVM).\n * @throws
IllegalArgumentException if the given [capacity] is negative.\n * @sample

```

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samples.collections.Builders.Sets.buildSetSample\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <E> buildSet(capacity: Int, @BuilderInference builderAction: MutableSet<E>().->Unit): Set<E> {\n
contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return buildSetInternal(capacity,\n
builderAction)\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().->Unit): Set<E>\n\n/** Returns this Set if it's not `null` and the empty set otherwise. */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>?.orEmpty(): Set<T> = this ?: emptySet()\n\ninternal fun <T> Set<T>.optimizeReadOnlySet() = when (size) {\n 0 -> emptySet()\n 1 -> setOf(iterator().next())\n else -> this\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n@file:Suppress("PLATFORM_CLASS_MAPPED_TO_KOTLIN")\n\npackage kotlin.text\n\n/**\n * Parses the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toByteArrayOrNull(): Byte? = toByteOrNull(radix = 10)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toByteArrayOrNull(radix: Int): Byte? {\n val int = this.toIntOrNull(radix) ?: return null\n if (int < Byte.MIN_VALUE || int > Byte.MAX_VALUE) return null\n return int.toByteArray()\n}\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toShortOrNull(): Short? = toShortOrNull(radix = 10)\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toShortOrNull(radix: Int): Short? {\n val int = this.toIntOrNull(radix) ?: return null\n if (int < Short.MIN_VALUE || int > Short.MAX_VALUE) return null\n return int.toShort()\n}\n\n/**\n * Parses the string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toIntOrNull(): Int? = toIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toIntOrNull(radix: Int): Int? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0) return null\n\n val start: Int\n val isNegative: Boolean\n val limit: Int\n val firstChar = this[0]\n if (firstChar < '0') { // Possible leading sign\n if (length == 1) return null // non-digit (possible sign) only, no digits after\n start = 1\n if (firstChar == '-') {\n isNegative = true\n limit = Int.MIN_VALUE\n } else if (firstChar == '+') {\n isNegative = false\n limit = Int.MAX_VALUE\n } else\n return null\n } else {\n start = 0\n isNegative = false\n limit = -Int.MAX_VALUE\n }\n\n val limitForMaxRadix = (-Int.MAX_VALUE) / 36\n var limitBeforeMul = limitForMaxRadix\n var result = 0\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n if (digit < 0) return null\n if (result < limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / radix\n if (result < limitBeforeMul) {\n return null\n }\n } else {\n return null\n }\n }\n result *= radix\n\n if (result < limit + digit) return null\n result -= digit\n }\n return if (isNegative) result else -result\n}\n\n/**\n * Parses the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toLongOrNull(): Long? = toLongOrNull(radix = 10)\n\n/**\n * Parses the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n\n*\n@SinceKotlin("1.1")\npublic fun String.toLongOrNull(radix: Int): Long? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0) return null\n\n val start: Int\n val isNegative:

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Boolean val limit: Long val firstChar = this[0] if (firstChar < '0') { // Possible leading sign
    if (length == 1) return null // non-digit (possible sign) only, no digits after
    start = 1 if (firstChar == '-')
    {
        isNegative = true limit = Long.MIN_VALUE } else if (firstChar == '+') {
        isNegative = false limit = -Long.MAX_VALUE } else return null } else {
    start = 0
    isNegative = false limit = -Long.MAX_VALUE }
    val limitForMaxRadix = (-Long.MAX_VALUE) / 36
    var limitBeforeMul = limitForMaxRadix var result = 0L for (i in start until length) {
        val digit = digitOf(this[i], radix) if (digit < 0) return null if (result < limitBeforeMul)
        {
            if (limitBeforeMul == limitForMaxRadix) {
                limitBeforeMul = limit / radix if (result < limitBeforeMul) {
                    return null } else {
                        return null
                    }
                }
            result *= radix if (result < limit + digit) return null result -= digit }
        }
    return if (isNegative) result else -result
}

internal fun numberFormatError(input: String): Nothing = throw
NumberFormatException("Invalid number format: '$input'")

/*
 * Copyright 2010-2021 JetBrains s.r.o. and
 * Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that
 * can be found in the license/LICENSE.txt file.
 */
package kotlin.time
import kotlin.contracts.*
import kotlin.jvm.JvmInline
import kotlin.math.*

/**
 * Represents the amount of time one instant of time is away
 * from another instant.
 *
 * A negative duration is possible in a situation when the second instant is earlier than the
 * first one.
 *
 * The type can store duration values up to 146 years with nanosecond precision,
 * and up to 146 million years with millisecond precision.
 *
 * If a duration-returning operation provided in `kotlin.time`
 * produces a duration value that doesn't fit into the above range,
 * the returned `Duration` is infinite.
 *
 * An infinite duration value [Duration.INFINITE] can be used to represent infinite timeouts.
 *
 * To construct a duration use either the extension function [toDuration],
 * or the extension properties [hours], [minutes], [seconds],
 * and so on,
 * available on [Int], [Long], and [Double] numeric types.
 *
 * To get the value of this duration
 * expressed in a particular [duration units][DurationUnit]
 * use the functions [toInt], [toLong], and [toDouble]
 * or the properties [inWholeHours], [inWholeMinutes], [inWholeSeconds], [inWholeNanoseconds],
 * and so on.
 */
@SinceKotlin("1.6")
@WasExperimental(ExperimentalTime::class)
@JvmInline
public value class Duration internal constructor(private val rawValue: Long) : Comparable<Duration> {
    private val value: Long get() = rawValue shr 1
    private inline val unitDiscriminator: Int get() = rawValue.toInt() and 1
    private fun isInNanos() = unitDiscriminator == 0
    private fun isInMillis() = unitDiscriminator == 1
    private val storageUnit get() = if (isInNanos()) DurationUnit.NANOSECONDS else DurationUnit.MILLISECONDS

    init {
        if (durationAssertionsEnabled) {
            if (isInNanos()) {
                if (value !in -MAX_NANOS..MAX_NANOS) throw AssertionError("$value ns is out of nanoseconds range")
            } else {
                if (value !in -MAX_MILLIS..MAX_MILLIS) throw AssertionError("$value ms is out of milliseconds range")
                if (value in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) throw
                    AssertionError("$value ms is denormalized")
            }
        }
    }

    companion object {
        /** The duration equal to exactly 0 seconds. */
        public val ZERO: Duration = Duration(0L)
        /** The duration whose value is positive infinity. It is useful for representing timeouts that should never expire. */
        public val INFINITE: Duration = durationOfMillis(MAX_MILLIS)
        internal val NEG_INFINITE: Duration = durationOfMillis(-MAX_MILLIS)
        /** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified [targetUnit]. */
        @ExperimentalTime
        public fun convert(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double =
            convertDurationUnit(value, sourceUnit, targetUnit)

        // Duration construction extension properties in Duration companion scope
        /** Returns a [Duration] equal to this [Int] number of nanoseconds. */
        @kotlin.internal.InlineOnly
        public inline val Int.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)
        /** Returns a [Duration] equal to this [Long] number of nanoseconds. */
        @kotlin.internal.InlineOnly
        public inline val Long.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)
        /**
         * Returns a [Duration] equal to this [Double] number of nanoseconds.
         * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or milliseconds.
         * @throws IllegalArgumentException if this [Double] value is NaN.
         */
        @kotlin.internal.InlineOnly
        public inline val Double.nanoseconds get() =

```

```

toDuration(DurationUnit.NANOSECONDS)\n\n    /** Returns a [Duration] equal to this [Int] number of
microseconds. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] equal to this [Long] number of
microseconds. */\n    @kotlin.internal.InlineOnly\n    public inline val Long.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n    /**\n     * Returns a [Duration] equal to this [Double]
number of microseconds.\n     * Depending on its magnitude, the value is rounded to an integer number
of nanoseconds or milliseconds.\n     * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline val Double.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n\n    /** Returns a [Duration] equal to this [Int] number of
milliseconds. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] equal to this [Long] number of
milliseconds. */\n    @kotlin.internal.InlineOnly\n    public inline val Long.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n    /**\n     * Returns a [Duration] equal to this [Double]
number of milliseconds.\n     * Depending on its magnitude, the value is rounded to an integer number of
nanoseconds or milliseconds.\n     * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline val Double.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n\n    /** Returns a [Duration] equal to this [Int] number of
seconds. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n    /** Returns a [Duration] equal to this [Long] number of seconds. */\n    @kotlin.internal.InlineOnly\n    public inline val Long.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n    /**\n     * Returns a [Duration] equal to this [Double] number of
seconds.\n     * Depending on its magnitude, the value is rounded to an integer number of nanoseconds or
milliseconds.\n     * @throws IllegalArgumentException if this [Double] value is `NaN`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline val Double.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n\n    /** Returns a [Duration] equal to this [Int] number of minutes. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n\n    /** Returns a [Duration] equal to this [Long] number of minutes. */\n    @kotlin.internal.InlineOnly\n    public inline val Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n    /**\n     * Returns a
[Duration] equal to this [Double] number of minutes.\n     * Depending on its magnitude, the value is
rounded to an integer number of nanoseconds or milliseconds.\n     * @throws IllegalArgumentException
if this [Double] value is `NaN`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline val Double.minutes
get() = toDuration(DurationUnit.MINUTES)\n\n\n    /** Returns a [Duration] equal to this [Int] number of hours.
*/\n    @kotlin.internal.InlineOnly\n    public inline val Int.hours get() = toDuration(DurationUnit.HOURS)\n\n\n    /** Returns a [Duration] equal to this [Long] number of hours. */\n    @kotlin.internal.InlineOnly\n    public
inline val Long.hours get() = toDuration(DurationUnit.HOURS)\n\n    /**\n     * Returns a [Duration] equal to
this [Double] number of hours.\n     * Depending on its magnitude, the value is rounded to an integer
number of nanoseconds or milliseconds.\n     * @throws IllegalArgumentException if this [Double]
value is `NaN`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline val Double.hours get() =
toDuration(DurationUnit.HOURS)\n\n\n    /** Returns a [Duration] equal to this [Int] number of days. */\n    @kotlin.internal.InlineOnly\n    public inline val Int.days get() = toDuration(DurationUnit.DAYS)\n\n\n    /**
Returns a [Duration] equal to this [Long] number of days. */\n    @kotlin.internal.InlineOnly\n    public inline
val Long.days get() = toDuration(DurationUnit.DAYS)\n\n    /**\n     * Returns a [Duration] equal to this
[Double] number of days.\n     * Depending on its magnitude, the value is rounded to an integer number
of nanoseconds or milliseconds.\n     * @throws IllegalArgumentException if this [Double] value is
`NaN`.\n     */\n    @kotlin.internal.InlineOnly\n    public inline val Double.days get() =
toDuration(DurationUnit.DAYS)\n\n\n    // deprecated static factory functions\n    /** Returns a [Duration]
representing the specified [value] number of nanoseconds. */\n    @SinceKotlin("1.5")\n    @ExperimentalTime\n    @Deprecated("Use 'Int.nanoseconds' extension property from Duration.Companion

```



```

instead.\", ReplaceWith(\"value.nanoseconds\", \"kotlin.time.Duration.Companion.nanoseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun nanoseconds(value: Int): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of nanoseconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Long.nanoseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.nanoseconds\", \"kotlin.time.Duration.Companion.nanoseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun nanoseconds(value: Long): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of nanoseconds.\n    * \n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Double.nanoseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.nanoseconds\", \"kotlin.time.Duration.Companion.nanoseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun nanoseconds(value: Double): Duration =
value.toDuration(DurationUnit.NANOSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Int.microseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.microseconds\", \"kotlin.time.Duration.Companion.microseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun microseconds(value: Int): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of microseconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Long.microseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.microseconds\", \"kotlin.time.Duration.Companion.microseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun microseconds(value: Long): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of microseconds.\n    * \n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Double.microseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.microseconds\", \"kotlin.time.Duration.Companion.microseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun microseconds(value: Double): Duration =
value.toDuration(DurationUnit.MICROSECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of milliseconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Int.milliseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.milliseconds\", \"kotlin.time.Duration.Companion.milliseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun milliseconds(value: Int): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of milliseconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Long.milliseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.milliseconds\", \"kotlin.time.Duration.Companion.milliseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun milliseconds(value: Long): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /**\n    * Returns a [Duration] representing the
specified [value] number of milliseconds.\n    * \n    * @throws IllegalArgumentException if the provided
`Double` [value] is `NaN`.\n    */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Double.milliseconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.milliseconds\", \"kotlin.time.Duration.Companion.milliseconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun milliseconds(value: Double): Duration =
value.toDuration(DurationUnit.MILLISECONDS)\n\n    /** Returns a [Duration] representing the specified
[value] number of seconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n@Deprecated(\"Use 'Int.seconds' extension property from Duration.Companion instead.\", ReplaceWith(\"value.seconds\",

```

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\kotlin.time.Duration.Companion.seconds\))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public
fun seconds(value: Int): Duration = value.toDuration(DurationUnit.SECONDS)\n\n    /** Returns a [Duration]
representing the specified [value] number of seconds. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n    @Deprecated(\"Use 'Long.seconds' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.seconds\", \"kotlin.time.Duration.Companion.seconds\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun seconds(value: Long): Duration =
value.toDuration(DurationUnit.SECONDS)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of seconds.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n    @Deprecated(\"Use
'Double.seconds' extension property from Duration.Companion instead.\", ReplaceWith(\"value.seconds\",
\"kotlin.time.Duration.Companion.seconds\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public
fun seconds(value: Double): Duration = value.toDuration(DurationUnit.SECONDS)\n\n    /** Returns a
[Duration] representing the specified [value] number of minutes. */\n    @SinceKotlin(\"1.5\")\n
@ExperimentalTime\n    @Deprecated(\"Use 'Int.minutes' extension property from Duration.Companion
instead.\", ReplaceWith(\"value.minutes\", \"kotlin.time.Duration.Companion.minutes\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun minutes(value: Int): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n    /** Returns a [Duration] representing the specified [value]
number of minutes. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n    @Deprecated(\"Use
'Long.minutes' extension property from Duration.Companion instead.\", ReplaceWith(\"value.minutes\",
\"kotlin.time.Duration.Companion.minutes\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public
fun minutes(value: Long): Duration = value.toDuration(DurationUnit.MINUTES)\n\n    /**\n    * Returns a
[Duration] representing the specified [value] number of minutes.\n    *\n    * @throws
IllegalArgumentException if the provided `Double` [value] is `NaN`.\n    */\n    @SinceKotlin(\"1.5\")\n
@ExperimentalTime\n    @Deprecated(\"Use 'Double.minutes' extension property from Duration.Companion
instead.\", ReplaceWith(\"value.minutes\", \"kotlin.time.Duration.Companion.minutes\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun minutes(value: Double): Duration =
value.toDuration(DurationUnit.MINUTES)\n\n    /** Returns a [Duration] representing the specified [value]
number of hours. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n    @Deprecated(\"Use 'Int.hours'
extension property from Duration.Companion instead.\", ReplaceWith(\"value.hours\",
\"kotlin.time.Duration.Companion.hours\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public
fun hours(value: Int): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /** Returns a [Duration]
representing the specified [value] number of hours. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n
@Deprecated(\"Use 'Long.hours' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.hours\", \"kotlin.time.Duration.Companion.hours\"))\n
@DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public fun hours(value: Long): Duration =
value.toDuration(DurationUnit.HOURS)\n\n    /**\n    * Returns a [Duration] representing the specified
[value] number of hours.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is
`NaN`.\n    */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n    @Deprecated(\"Use 'Double.hours'
extension property from Duration.Companion instead.\", ReplaceWith(\"value.hours\",
\"kotlin.time.Duration.Companion.hours\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public
fun hours(value: Double): Duration = value.toDuration(DurationUnit.HOURS)\n\n    /** Returns a [Duration]
representing the specified [value] number of days. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n
@Deprecated(\"Use 'Int.days' extension property from Duration.Companion instead.\", ReplaceWith(\"value.days\",
\"kotlin.time.Duration.Companion.days\"))\n    @DeprecatedSinceKotlin(warningSince = \"1.6\")\n    public
fun days(value: Int): Duration = value.toDuration(DurationUnit.DAYS)\n\n    /** Returns a [Duration]
representing the specified [value] number of days. */\n    @SinceKotlin(\"1.5\")\n    @ExperimentalTime\n
@Deprecated(\"Use 'Long.days' extension property from Duration.Companion instead.\",
ReplaceWith(\"value.days\", \"kotlin.time.Duration.Companion.days\"))\n

```

```

@DeprecatedSinceKotlin(warningSince = `1.6`)\n    public fun days(value: Long): Duration =
value.toDuration(DurationUnit.DAYS)\n    /**\n    * Returns a [Duration] representing the specified [value]
number of days.\n    *\n    * @throws IllegalArgumentException if the provided `Double` [value] is `NaN`.\n
*/\n    @SinceKotlin(`1.5`)\n    @ExperimentalTime\n    @Deprecated("Use 'Double.days' extension
property from Duration.Companion instead.", ReplaceWith("`value.days`",
`kotlin.time.Duration.Companion.days`))\n    @DeprecatedSinceKotlin(warningSince = `1.6`)\n    public
fun days(value: Double): Duration = value.toDuration(DurationUnit.DAYS)\n    /**\n    * Parses a string that
represents a duration and returns the parsed [Duration] value.\n    *\n    * The following formats are
accepted:\n    *\n    * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and
[parseIsoString].\n    * - The format of string returned by the default [Duration.toString] and `toString` in a
specific unit,\n    * e.g. `10s`, `1h 30m` or `-(1h 30m)`.\n    *\n    * @throws IllegalArgumentException if
the string doesn't represent a duration in any of the supported formats.\n    * @sample
samples.time.Durations.parse\n    */\n    public fun parse(value: String): Duration = try {\n
parseDuration(value, strictIso = false)\n    } catch (e: IllegalArgumentException) {\n    throw
IllegalArgumentException("Invalid duration string format: '$value'.", e)\n    }\n    /**\n    * Parses a
string that represents a duration in ISO-8601 format and returns the parsed [Duration] value.\n    *\n    *
@throws IllegalArgumentException if the string doesn't represent a duration in ISO-8601 format.\n    * @sample
samples.time.Durations.parseIsoString\n    */\n    public fun parseIsoString(value: String): Duration = try {\n
parseDuration(value, strictIso = true)\n    } catch (e: IllegalArgumentException) {\n    throw
IllegalArgumentException("Invalid ISO duration string format: '$value'.", e)\n    }\n    /**\n    * Parses a
string that represents a duration and returns the parsed [Duration] value,\n    * or `null` if the string doesn't
represent a duration in any of the supported formats.\n    *\n    * The following formats are accepted:\n
*\n    * - ISO-8601 Duration format, e.g. `P1DT2H3M4.058S`, see [toIsoString] and [parseIsoString].\n    * -
The format of string returned by the default [Duration.toString] and `toString` in a specific unit,\n    * e.g. `10s`,
`1h 30m` or `-(1h 30m)`.\n    * @sample samples.time.Durations.parse\n    */\n    public fun
parseOrNull(value: String): Duration? = try {\n    parseDuration(value, strictIso = false)\n    } catch (e:
IllegalArgumentException) {\n    null\n    }\n    /**\n    * Parses a string that represents a duration in
ISO-8601 format and returns the parsed [Duration] value,\n    * or `null` if the string doesn't represent a duration
in ISO-8601 format.\n    * @sample samples.time.Durations.parseIsoString\n    */\n    public fun
parseIsoStringOrNull(value: String): Duration? = try {\n    parseDuration(value, strictIso = true)\n    } catch
(e: IllegalArgumentException) {\n    null\n    }\n    }\n    /**\n    * Returns the
negative of this value. *\n    public operator fun unaryMinus(): Duration = durationOf(-value,
unitDiscriminator)\n    /**\n    * Returns a duration whose value is the sum of this and [other] duration values.\n
*\n    * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,\n
* e.g. when adding infinite durations of different sign.\n    */\n    public operator fun plus(other: Duration):
Duration {\n    when {\n    this.isInfinite() -> {\n    if (other.isFinite() || (this.rawValue xor
other.rawValue >= 0))\n    return this\n    else\n    throw
IllegalArgumentException("Summing infinite durations of different signs yields an undefined result.")\n    }\n
other.isInfinite() -> return other\n    }\n    return when {\n    this.unitDiscriminator ==
other.unitDiscriminator -> {\n    val result = this.value + other.value // never overflows long, but can
overflow long63\n    when {\n    isInNanos() ->\n
durationOfNanosNormalized(result)\n    else ->\n    durationOfMillisNormalized(result)\n
}\n    }\n    this.isInMillis() ->\n    addValuesMixedRanges(this.value, other.value)\n
else ->\n    addValuesMixedRanges(other.value, this.value)\n    }\n    }\n    private fun
addValuesMixedRanges(thisMillis: Long, otherNanos: Long): Duration {\n    val otherMillis =
nanosToMillis(otherNanos)\n    val resultMillis = thisMillis + otherMillis\n    return if (resultMillis in -
MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {\n    val otherNanoRemainder = otherNanos -
millisToNanos(otherMillis)\n    durationOfNanos(millisToNanos(resultMillis) + otherNanoRemainder)\n    }
}

```

```

else {
    durationOfMillis(resultMillis.coerceIn(-MAX_MILLIS, MAX_MILLIS))
}

/**
 * Returns a duration whose value is the difference between this and [other] duration values.
 * @throws IllegalArgumentException if the operation results in an undefined value for the given arguments,
 * e.g. when subtracting infinite durations of the same sign.
 */
public operator fun minus(other: Duration): Duration =
    this + (-other)

/**
 * Returns a duration whose value is this duration value multiplied by the given [scale]
 * number.
 * @throws IllegalArgumentException if the operation results in an undefined value for the given
 * arguments,
 * e.g. when multiplying an infinite duration by zero.
 */
public operator fun times(scale: Int): Duration {
    if (isInfinite()) {
        return when {
            scale == 0 -> throw
                IllegalArgumentException("Multiplying infinite duration by zero yields an undefined result.")
            scale > 0
                -> this
            else -> -this
        }
    }
    if (scale == 0) return ZERO
    val value = value
    val result = value * scale
    return if (isInNanos()) {
        if (value in (MAX_NANOS /
            Int.MIN_VALUE)..(-MAX_NANOS / Int.MIN_VALUE)) {
            // can't overflow nanos range for any
            scale
            durationOfNanos(result)
        } else {
            if (result / scale == value) {
                durationOfNanosNormalized(result)
            } else {
                val millis = nanosToMillis(value)
                val remNanos = value - millisToNanos(millis)
                val resultMillis = millis * scale
                val
                totalMillis = resultMillis + nanosToMillis(remNanos * scale)
                if (resultMillis / scale == millis &&
                    totalMillis xor resultMillis >= 0) {
                    durationOfMillis(totalMillis.coerceIn(-
                        MAX_MILLIS..MAX_MILLIS))
                } else {
                    if (value.sign * scale.sign > 0) INFINITE
                } else {
                    if (result / scale == value) {
                        durationOfMillis(result.coerceIn(-MAX_MILLIS..MAX_MILLIS))
                    } else {
                        if (value.sign
                            * scale.sign > 0) INFINITE else NEG_INFINITE
                    }
                }
            }
        }
    }
}

/**
 * Returns a duration whose
 * value is this duration value multiplied by the given [scale] number.
 * The operation may involve rounding
 * when the result cannot be represented exactly with a [Double] number.
 * @throws
 * IllegalArgumentException if the operation results in an undefined value for the given arguments,
 * e.g. when
 * multiplying an infinite duration by zero.
 */
public operator fun times(scale: Double): Duration {
    val
    intScale = scale.roundToInt()
    if (intScale.toDouble() == scale) {
        return times(intScale)
    }
    val unit = storageUnit
    val result = toDouble(unit) * scale
    return result.toDuration(unit)
}

/**
 * Returns a duration whose value is this duration value divided by the given [scale] number.
 * @throws
 * IllegalArgumentException if the operation results in an undefined value for the given arguments,
 * e.g.
 * when dividing zero duration by zero.
 */
public operator fun div(scale: Int): Duration {
    if (scale ==
        0) {
        return when {
            isPositive() -> INFINITE
            isNegative() -> NEG_INFINITE
            else -> throw
                IllegalArgumentException("Dividing zero") duration by zero yields an undefined result.")
        }
    }
    if (isInNanos()) {
        return durationOfNanos(value / scale)
    } else {
        if
        (isInfinite())
            return this * scale.sign
        val result = value / scale
        if (result in -
            MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) {
            val rem = millisToNanos(value - (result *
                scale)) / scale
            return durationOfNanos(millisToNanos(result) + rem)
        }
        return
        durationOfMillis(result)
    }
}

/**
 * Returns a duration whose value is this duration value divided
 * by the given [scale] number.
 * @throws
 * IllegalArgumentException if the operation results in an
 * undefined value for the given arguments,
 * e.g. when dividing an infinite duration by infinity or zero duration
 * by zero.
 */
public operator fun div(scale: Double): Duration {
    val intScale = scale.roundToInt()
    if (intScale.toDouble() == scale && intScale != 0) {
        return div(intScale)
    }
    val unit =
        storageUnit
    val result = toDouble(unit) / scale
    return result.toDuration(unit)
}

/**
 * Returns a
 * number that is the ratio of this and [other] duration values.
 */
public operator fun div(other: Duration): Double {
    val coarserUnit = maxOf(this.storageUnit, other.storageUnit)
    return this.toDouble(coarserUnit) /
        other.toDouble(coarserUnit)
}

/**
 * Returns true, if the duration value is less than zero.
 */
public fun
isNegative(): Boolean = rawValue < 0

/**
 * Returns true, if the duration value is greater than zero.
 */
public fun
isPositive(): Boolean = rawValue > 0

/**
 * Returns true, if the duration value is infinite.
 */
public fun
isInfinite(): Boolean = rawValue == INFINITE.rawValue || rawValue == NEG_INFINITE.rawValue

```

```

Returns true, if the duration value is finite. */
public fun isFinite(): Boolean = !isInfinite()

/** Returns the
absolute value of this value. The returned value is always non-negative. */
public val absoluteValue: Duration
get() = if (isNegative()) -this else this

override fun compareTo(other: Duration): Int {
    val compareBits =
this.rawValue xor other.rawValue
    if (compareBits < 0 || compareBits.toInt() and 1 == 0) // different signs or
same sign/same range
        return this.rawValue.compareTo(other.rawValue) // same sign/different
ranges
    val r = this.unitDiscriminator - other.unitDiscriminator // compare ranges
    return if (isNegative())
-r else r
}

// splitting to components
/**
 * Splits this duration into days, hours, minutes,
seconds, and nanoseconds and executes the given [action] with these components.
 * The result of [action] is
returned as the result of this function.
 * - `nanoseconds` represents the whole number of nanoseconds in
this duration, and its absolute value is less than 1_000_000_000;
 * - `seconds` represents the whole number of
seconds in this duration, and its absolute value is less than 60;
 * - `minutes` represents the whole number of
minutes in this duration, and its absolute value is less than 60;
 * - `hours` represents the whole number of hours
in this duration, and its absolute value is less than 24;
 * - `days` represents the whole number of days in this
duration.
 *
 * Infinite durations are represented as either [Long.MAX_VALUE] days, or
[Long.MIN_VALUE] days (depending on the sign of infinity),
 * and zeroes in the lower components.
 */
public inline fun <T> toComponents(action: (days: Long, hours: Int, minutes: Int, seconds: Int, nanoseconds: Int) -
> T): T {
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }
    return
action(inWholeDays, hoursComponent, minutesComponent, secondsComponent, nanosecondsComponent)
}

/**
 * Splits this duration into hours, minutes, seconds, and nanoseconds and executes the given [action] with
these components.
 * The result of [action] is returned as the result of this function.
 * - `nanoseconds`
represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;
 * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;
 * -
`minutes` represents the whole number of minutes in this duration, and its absolute value is less than 60;
 * -
`hours` represents the whole number of hours in this duration.
 *
 * Infinite durations are represented as
either [Long.MAX_VALUE] hours, or [Long.MIN_VALUE] hours (depending on the sign of infinity),
 * and
zeroes in the lower components.
 */
public inline fun <T> toComponents(action: (hours: Long, minutes: Int,
seconds: Int, nanoseconds: Int) -> T): T {
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE)
}
    return action(inWholeHours, minutesComponent, secondsComponent, nanosecondsComponent)
}

/**
 * Splits this duration into minutes, seconds, and nanoseconds and executes the given [action] with these
components.
 * The result of [action] is returned as the result of this function.
 * - `nanoseconds`
represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;
 * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;
 * -
`minutes` represents the whole number of minutes in this duration.
 *
 * Infinite durations are represented as
either [Long.MAX_VALUE] minutes, or [Long.MIN_VALUE] minutes (depending on the sign of infinity),
 * and
zeroes in the lower components.
 */
public inline fun <T> toComponents(action: (minutes: Long,
seconds: Int, nanoseconds: Int) -> T): T {
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE)
}
    return action(inWholeMinutes, secondsComponent, nanosecondsComponent)
}

/**
 * Splits
this duration into seconds, and nanoseconds and executes the given [action] with these components.
 * The result
of [action] is returned as the result of this function.
 * - `nanoseconds` represents the whole number of
nanoseconds in this duration, and its absolute value is less than 1_000_000_000;
 * - `seconds` represents the
whole number of seconds in this duration.
 *
 * Infinite durations are represented as either
[Long.MAX_VALUE] seconds, or [Long.MIN_VALUE] seconds (depending on the sign of infinity),
 * and
zero nanoseconds.
 */
public inline fun <T> toComponents(action: (seconds: Long, nanoseconds: Int) -> T):
T {
    contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }
    return
action(inWholeSeconds, nanosecondsComponent)
}

@PublishedApi
internal val hoursComponent:
Int
get() = if (isInfinite()) 0 else (inWholeHours % 24).toInt()

@PublishedApi
internal val
minutesComponent: Int
get() = if (isInfinite()) 0 else (inWholeMinutes % 60).toInt()

@PublishedApi
internal val secondsComponent: Int
get() = if (isInfinite()) 0 else (inWholeSeconds % 60).toInt()

```

```

@PublishedApi\n    internal val nanosecondsComponent: Int\n        get() = when {\n            isInfinite() -> 0\n            isInMillis() -> millisToNanos(value % 1_000).toInt()\n            else -> (value % 1_000_000_000).toInt()\n        }\n\n    // conversion to units\n    /**\n     * Returns the value of this duration expressed as a [Double] number of  

    the specified [unit].\n     * The operation may involve rounding when the result cannot be represented exactly  

    with a [Double] number.\n     * An infinite duration value is converted either to  

    [Double.POSITIVE_INFINITY] or [Double.NEGATIVE_INFINITY] depending on its sign.\n     */\n    public fun  

    toDouble(unit: DurationUnit): Double {\n        return when (rawValue) {\n            INFINITE.rawValue ->  

            Double.POSITIVE_INFINITY\n            NEG_INFINITE.rawValue -> Double.NEGATIVE_INFINITY\n            else -> {\n                // TODO: whether it's ok to convert to Double before scaling\n            }\n        }\n    }\n\n    /**\n     * Returns the value  

    of this duration expressed as a [Long] number of the specified [unit].\n     * If the result doesn't fit in the range  

    of [Long] type, it is coerced into that range:\n     * - [Long.MIN_VALUE] is returned if it's less than  

    `Long.MIN_VALUE`,\n     * - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n     *\n     * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on  

    its sign.\n     */\n    public fun toLong(unit: DurationUnit): Long {\n        return when (rawValue) {\n            INFINITE.rawValue -> Long.MAX_VALUE\n            NEG_INFINITE.rawValue -> Long.MIN_VALUE\n            else -> convertDurationUnit(value, storageUnit, unit)\n        }\n    }\n\n    /**\n     * Returns the value of this  

    duration expressed as an [Int] number of the specified [unit].\n     * If the result doesn't fit in the range of [Int]  

    type, it is coerced into that range:\n     * - [Int.MIN_VALUE] is returned if it's less than `Int.MIN_VALUE`,\n     * -  

    [Int.MAX_VALUE] is returned if it's greater than `Int.MAX_VALUE`.\n     *\n     * An infinite duration value is  

    converted either to [Int.MAX_VALUE] or [Int.MIN_VALUE] depending on its sign.\n     */\n    public fun  

    toInt(unit: DurationUnit): Int =\n        toLong(unit).coerceIn(Int.MIN_VALUE.toInt(),  

        Int.MAX_VALUE.toInt()).toInt()\n\n    /** The value of this duration expressed as a [Double] number of days.  

    */\n    @ExperimentalTime\n    @Deprecated("Use inWholeDays property instead or convert toDouble(DAYS) if a  

    double value is required.", ReplaceWith("toDouble(DurationUnit.DAYS)"))\n    public val inDays: Double get() =  

    toDouble(DurationUnit.DAYS)\n\n    /** The value of this duration expressed as a [Double] number of hours. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeHours property instead or convert toDouble(HOURS) if a  

    double value is required.", ReplaceWith("toDouble(DurationUnit.HOURS)"))\n    public val inHours: Double  

    get() = toDouble(DurationUnit.HOURS)\n\n    /** The value of this duration expressed as a [Double] number of  

    minutes. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMinutes property instead or convert  

    toDouble(MINUTES) if a double value is required.", ReplaceWith("toDouble(DurationUnit.MINUTES)"))\n    public val inMinutes: Double get() = toDouble(DurationUnit.MINUTES)\n\n    /** The value of this duration  

    expressed as a [Double] number of seconds. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeSeconds  

    property instead or convert toDouble(SECONDS) if a double value is required.",  

    ReplaceWith("toDouble(DurationUnit.SECONDS)"))\n    public val inSeconds: Double get() =  

    toDouble(DurationUnit.SECONDS)\n\n    /** The value of this duration expressed as a [Double] number of  

    milliseconds. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMilliseconds property instead or convert  

    toDouble(MILLISECONDS) if a double value is required.",  

    ReplaceWith("toDouble(DurationUnit.MILLISECONDS)"))\n    public val inMilliseconds: Double get() =  

    toDouble(DurationUnit.MILLISECONDS)\n\n    /** The value of this duration expressed as a [Double] number of  

    microseconds. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeMicroseconds property instead or  

    convert toDouble(MICROSECONDS) if a double value is required.",  

    ReplaceWith("toDouble(DurationUnit.MICROSECONDS)"))\n    public val inMicroseconds: Double get() =  

    toDouble(DurationUnit.MICROSECONDS)\n\n    /** The value of this duration expressed as a [Double] number of  

    nanoseconds. */\n    @ExperimentalTime\n    @Deprecated("Use inWholeNanoseconds property instead or convert  

    toDouble(NANOSECONDS) if a double value is required.",  

    ReplaceWith("toDouble(DurationUnit.NANOSECONDS)"))\n    public val inNanoseconds: Double get() =  

    toDouble(DurationUnit.NANOSECONDS)\n\n    /**\n     * The value of this duration expressed as a [Long]

```

```

number of days.\n * An infinite duration value is converted either to [Long.MAX_VALUE] or
[Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeDays: Long\n    get() =
toLong(DurationUnit.DAYS)\n\n /**\n * The value of this duration expressed as a [Long] number of hours.\n *\n * An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending
on its sign.\n */\n public val inWholeHours: Long\n    get() = toLong(DurationUnit.HOURS)\n\n /**\n *
The value of this duration expressed as a [Long] number of minutes.\n *\n * An infinite duration value is
converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val
inWholeMinutes: Long\n    get() = toLong(DurationUnit.MINUTES)\n\n /**\n * The value of this duration
expressed as a [Long] number of seconds.\n *\n * An infinite duration value is converted either to
[Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeSeconds:
Long\n    get() = toLong(DurationUnit.SECONDS)\n\n /**\n * The value of this duration expressed as a
[Long] number of milliseconds.\n *\n * An infinite duration value is converted either to [Long.MAX_VALUE]
or [Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeMilliseconds: Long\n    get() {\n
        return if (isInMillis() && isFinite()) value else toLong(DurationUnit.MILLISECONDS)\n    }\n\n /**\n *
The value of this duration expressed as a [Long] number of microseconds.\n *\n * If the result doesn't fit in the
range of [Long] type, it is coerced into that range:\n * - [Long.MIN_VALUE] is returned if it's less than
`Long.MIN_VALUE`,\n * - [Long.MAX_VALUE] is returned if it's greater than `Long.MAX_VALUE`.\n *\n
* An infinite duration value is converted either to [Long.MAX_VALUE] or [Long.MIN_VALUE] depending on
its sign.\n */\n public val inWholeMicroseconds: Long\n    get() =
toLong(DurationUnit.MICROSECONDS)\n\n /**\n * The value of this duration expressed as a [Long] number
of nanoseconds.\n *\n * If the result doesn't fit in the range of [Long] type, it is coerced into that range:\n * -
[Long.MIN_VALUE] is returned if it's less than `Long.MIN_VALUE`,\n * - [Long.MAX_VALUE] is returned if
it's greater than `Long.MAX_VALUE`.\n *\n * An infinite duration value is converted either to
[Long.MAX_VALUE] or [Long.MIN_VALUE] depending on its sign.\n */\n public val inWholeNanoseconds:
Long\n    get() {\n        val value = value\n        return when {\n            isInNanos() -> value\n
            value > Long.MAX_VALUE / NANOS_IN_MILLIS -> Long.MAX_VALUE\n            value <
Long.MIN_VALUE / NANOS_IN_MILLIS -> Long.MIN_VALUE\n            else -> millisToNanos(value)\n
        }\n    }\n\n // shortcuts\n\n /**\n * Returns the value of this duration expressed as a [Long] number of
nanoseconds.\n *\n * If the value doesn't fit in the range of [Long] type, it is coerced into that range, see the
conversion [Double.toLong] for details.\n *\n * The range of durations that can be expressed as a `Long`
number of nanoseconds is approximately \u00b1292 years.\n */\n @ExperimentalTime\n @Deprecated("Use
inWholeNanoseconds property instead.", ReplaceWith("this.inWholeNanoseconds"))\n public fun
toLongNanoseconds(): Long = inWholeNanoseconds\n\n /**\n * Returns the value of this duration expressed as
a [Long] number of milliseconds.\n *\n * The value is coerced to the range of [Long] type, if it doesn't fit in
that range, see the conversion [Double.toLong] for details.\n *\n * The range of durations that can be expressed
as a `Long` number of milliseconds is approximately \u00b1292 million years.\n */\n @ExperimentalTime\n
@Deprecated("Use inWholeMilliseconds property instead.", ReplaceWith("this.inWholeMilliseconds"))\n
public fun toLongMilliseconds(): Long = inWholeMilliseconds\n\n /**\n * Returns a string representation of
this duration value\n * expressed as a combination of numeric components, each in its own unit.\n *\n * Each
component is a number followed by the unit abbreviated name: `d`, `h`, `m`, `s`,\n * `5h`, `1d 12h`, `1h 0m
30.340s`.\n * The last component, usually seconds, can be a number with a fractional part.\n *\n * If the
duration is less than a second, it is represented as a single number\n * with one of sub-second units: `ms`
(milliseconds), `us` (microseconds), or `ns` (nanoseconds):\n * `140.884ms`, `500us`, `24ns`.\n *\n * A
negative duration is prefixed with `-` sign and, if it consists of multiple components, surrounded with parentheses:\n
* `-12m` and `-(1h 30m)`.\n *\n * Special cases:\n * - an infinite duration is formatted as `"Infinity"` or
`"-Infinity"` without a unit.\n *\n * It's recommended to use [toIsoString] that uses more strict ISO-8601
format instead of this `toString`\n * when you want to convert a duration to a string in cases of serialization,
interchange, etc.\n *\n * @sample samples.time.Durations.toStringDefault\n */\n override fun toString():

```

```

String = when (rawValue) {\n    0L -> \"0s\"\n    INFINITE.rawValue -> \"Infinity\"\n
NEG_INFINITE.rawValue -> \"-Infinity\"\n    else -> {\n        val isNegative = isNegative()\n
buildString {\n        if (isNegative) append('-')\n        absoluteValue.toComponents { days, hours, minutes,
seconds, nanoseconds ->\n            val hasDays = days != 0L\n            val hasHours = hours != 0\n
            val hasMinutes = minutes != 0\n            val hasSeconds = seconds != 0 || nanoseconds != 0\n            var
components = 0\n            if (hasDays) {\n                append(days).append('d')\n
components++\n            }\n            if (hasHours || (hasDays && (hasMinutes || hasSeconds))) {\n
            if (components++ > 0) append(' ')\n            append(hours).append('h')\n            }\n            if
(hasMinutes || (hasSeconds && (hasHours || hasDays))) {\n                if (components++ > 0) append(' ')\n
                append(minutes).append('m')\n            }\n            if (hasSeconds) {\n                if
(components++ > 0) append(' ')\n                when {\n                    seconds != 0 || hasDays || hasHours ||
hasMinutes ->\n                        appendFractional(seconds, nanoseconds, 9, \"s\", isoZeroes = false)\n
                    nanoseconds >= 1_000_000 ->\n                        appendFractional(nanoseconds / 1_000_000, nanoseconds
% 1_000_000, 6, \"ms\", isoZeroes = false)\n
                    nanoseconds >= 1_000 ->\n                        appendFractional(nanoseconds / 1_000, nanoseconds % 1_000, 3, \"us\", isoZeroes = false)\n
                }\n                else ->\n                    append(nanoseconds).append(\"ns\")\n            }\n            }\n            if
(isNegative && components > 1) insert(1, '(').append(')\n            }\n            }\n            }\n            }\n\n private fun
StringBuilder.appendFractional(whole: Int, fractional: Int, fractionalSize: Int, unit: String, isoZeroes: Boolean) {\n
    append(whole)\n    if (fractional != 0) {\n        append('.')\n        val fracString =
fractional.toString().padStart(fractionalSize, '0')\n        val nonZeroDigits = fracString.indexOfLast { it != '0' } +
1\n        when {\n            !isoZeroes && nonZeroDigits < 3 -> appendRange(fracString, 0, nonZeroDigits)\n
            else -> appendRange(fracString, 0, ((nonZeroDigits + 2) / 3) * 3)\n        }\n        }\n        append(unit)\n
}\n\n /**\n * Returns a string representation of this duration value expressed in the given [unit]\n * and
formatted with the specified [decimals] number of digits after decimal point.\n * \n * Special cases:\n * - an
infinite duration is formatted as \"Infinity\" or \"-Infinity\" without a unit.\n * \n * @param decimals the
number of digits after decimal point to show. The value must be non-negative.\n * \n * No more than 12 decimals will
be shown, even if a larger number is requested.\n * \n * @return the value of duration in the specified [unit]
followed by that unit abbreviated name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n * \n * @throws
IllegalArgumentException if [decimals] is less than zero.\n * \n * @sample
samples.time.Durations.toStringDecimals\n */\n public fun toString(unit: DurationUnit, decimals: Int = 0):
String {\n    require(decimals >= 0) { \"decimals must be not negative, but was $decimals\" }\n    val number =
toDouble(unit)\n    if (number.isInfinite()) return number.toString()\n    return formatToExactDecimals(number,
decimals.coerceAtMost(12)) + unit.shortName()\n }\n\n /**\n * Returns an ISO-8601 based string
representation of this duration.\n * \n * The returned value is presented in the format `PTm>s.fS`, where `h`,
`m`, `s` are the integer components of this duration (see [toComponents])\n * and `f` is a fractional part of second.
Depending on the roundness of the value the fractional part can be formatted with either\n * 0, 3, 6, or 9 decimal
digits.\n * \n * The infinite duration is represented as \"PT9999999999999999H\" which is larger than any
possible finite duration in Kotlin.\n * \n * Negative durations are indicated with the sign `-` in the beginning of
the returned string, for example, \"-PT5M30S\".\n * \n * @sample samples.time.Durations.toIsoString\n
*/\n public fun toIsoString(): String = buildString {\n    if (isNegative()) append('-')\n    append(\"PT\")\n
this@Duration.absoluteValue.toComponents { hours, minutes, seconds, nanoseconds ->\n        @Suppress(\"NAME_SHADOWING\")\n        var hours = hours\n        if (isInfinite()) {\n            // use large
enough value instead of Long.MAX_VALUE\n            hours = 9_999_999_999_999\n        }\n        val
hasHours = hours != 0L\n        val hasSeconds = seconds != 0 || nanoseconds != 0\n        val hasMinutes =
minutes != 0 || (hasSeconds && hasHours)\n        if (hasHours) {\n            append(hours).append('H')\n
        }\n        if (hasMinutes) {\n            append(minutes).append('M')\n        }\n        if (hasSeconds ||
(!hasHours && !hasMinutes)) {\n            appendFractional(seconds, nanoseconds, 9, \"S\", isoZeroes = true)\n
        }\n        }\n        }\n        }\n        }\n\n // constructing from number of units\n // extension functions\n /** Returns a [Duration]

```



equal to this [Int] number of the specified [unit].

```
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic fun Int.toDuration(unit: DurationUnit): Duration {\n    return if (unit <= DurationUnit.SECONDS) {\n        durationOfNanos(convertDurationUnitOverflow(this.toLong(), unit, DurationUnit.NANOSECONDS))\n    } else {\n        toLong().toDuration(unit)\n    }\n}\n/** Returns a [Duration] equal to this [Long] number of the specified [unit].\n*\n*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic fun Long.toDuration(unit: DurationUnit): Duration {\n    val maxNsInUnit = convertDurationUnitOverflow(MAX_NANOS, DurationUnit.NANOSECONDS, unit)\n    if (this in -maxNsInUnit..maxNsInUnit) {\n        return durationOfNanos(convertDurationUnitOverflow(this, unit, DurationUnit.NANOSECONDS))\n    } else {\n        val millis = convertDurationUnit(this, unit, DurationUnit.MILLISECONDS)\n        return durationOfMillis(millis.coerceIn(-MAX_MILLIS, MAX_MILLIS))\n    }\n}\n/** Returns a [Duration] equal to this [Double] number of the specified [unit].\n*\n*\n* Depending on its magnitude, the value is rounded to an integer number of nanoseconds or milliseconds.\n*\n*\n@throws IllegalArgumentException if this `Double` value is `NaN`.\n*\n*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic fun Double.toDuration(unit: DurationUnit): Duration {\n    val valueInNs = convertDurationUnit(this, unit, DurationUnit.NANOSECONDS)\n    require(!valueInNs.isNaN()) { "Duration value cannot be NaN." }\n    val nanos = valueInNs.roundToLong()\n    return if (nanos in -MAX_NANOS..MAX_NANOS) {\n        durationOfNanos(nanos)\n    } else {\n        val millis = convertDurationUnit(this, unit, DurationUnit.MILLISECONDS).roundToLong()\n        durationOfMillisNormalized(millis)\n    }\n}\n\n// constructing from number of units\n// deprecated extension properties\n/** Returns a [Duration] equal to this [Int] number of nanoseconds.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Int.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of nanoseconds.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Long.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Long.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Double] number of nanoseconds.\n*\n*\n* @throws IllegalArgumentException if this [Double] value is `NaN`.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.nanoseconds' extension property from Duration.Companion instead.", ReplaceWith("this.nanoseconds", "kotlin.time.Duration.Companion.nanoseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Double.nanoseconds get() = toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Int] number of microseconds.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Int.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of microseconds.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Long.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Long.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this [Double] number of microseconds.\n*\n*\n* @throws IllegalArgumentException if this [Double] value is `NaN`.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Double.microseconds' extension property from Duration.Companion instead.", ReplaceWith("this.microseconds", "kotlin.time.Duration.Companion.microseconds"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic val Double.microseconds get() = toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this [Int] number of milliseconds.\n*\n*\n@SinceKotlin("1.3")\n@ExperimentalTime\n@Deprecated("Use 'Int.milliseconds' extension property from Duration.Companion instead.", ReplaceWith("this.milliseconds",
```

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\"kotlin.time.Duration.Companion.milliseconds\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this
[Long] number of milliseconds. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use
'Long.milliseconds' extension property from Duration.Companion instead.\", ReplaceWith(\"this.milliseconds\"),
\"kotlin.time.Duration.Companion.milliseconds\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/**\n * Returns a [Duration] equal to this
[Double] number of milliseconds.\n *n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Double.milliseconds' extension property
from Duration.Companion instead.\", ReplaceWith(\"this.milliseconds\"),
\"kotlin.time.Duration.Companion.milliseconds\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.milliseconds get() = toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this
[Int] number of seconds. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Int.seconds'
extension property from Duration.Companion instead.\", ReplaceWith(\"this.seconds\"),
\"kotlin.time.Duration.Companion.seconds\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of
seconds. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Long.seconds' extension property
from Duration.Companion instead.\", ReplaceWith(\"this.seconds\"),
\"kotlin.time.Duration.Companion.seconds\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/**\n * Returns a [Duration] equal to this [Double]
number of seconds.\n *n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Double.seconds' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.seconds\"),
\"kotlin.time.Duration.Companion.seconds\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.seconds get() = toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Int]
number of minutes. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Int.minutes' extension
property from Duration.Companion instead.\", ReplaceWith(\"this.minutes\"),
\"kotlin.time.Duration.Companion.minutes\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Long] number of
minutes. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Long.minutes' extension property
from Duration.Companion instead.\", ReplaceWith(\"this.minutes\"),
\"kotlin.time.Duration.Companion.minutes\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/**\n * Returns a [Duration] equal to this [Double]
number of minutes.\n *n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Double.minutes' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.minutes\"),
\"kotlin.time.Duration.Companion.minutes\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.minutes get() = toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Int]
number of hours. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Int.hours' extension
property from Duration.Companion instead.\", ReplaceWith(\"this.hours\"),
\"kotlin.time.Duration.Companion.hours\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Int.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Long] number of
hours. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Long.hours' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.hours\"),
\"kotlin.time.Duration.Companion.hours\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.hours get() = toDuration(DurationUnit.HOURS)\n\n/**\n * Returns a [Duration] equal to this [Double]
number of hours.\n *n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Double.hours' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.hours\"),

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\"kotlin.time.Duration.Companion.hours\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.hours get() = toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Int] number of
days. *\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Int.days' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.days\"),
\"kotlin.time.Duration.Companion.days\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val Int.days
get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Long] number of days.
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Long.days' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.days\"),
\"kotlin.time.Duration.Companion.days\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Long.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Double] number
of days.\n * \n * @throws IllegalArgumentException if this [Double] value is `NaN`.\n
*\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use 'Double.days' extension property from
Duration.Companion instead.\", ReplaceWith(\"this.days\"),
\"kotlin.time.Duration.Companion.days\")\n@DeprecatedSinceKotlin(warningSince = \"1.5\")\npublic val
Double.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a duration whose value is the specified
[duration] value multiplied by this number.
*\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Int.times(duration: Duration): Duration = duration * this\n\n/** Returns a duration whose
value is the specified [duration] value multiplied by this number.\n * \n * The operation may involve rounding when
the result cannot be represented exactly with a [Double] number.\n * \n * @throws IllegalArgumentException if the
operation results in a `NaN` value.\n
*\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalTime::class)\n@kotlin.internal.InlineOnly\npublic
inline operator fun Double.times(duration: Duration): Duration = duration * this\n\n\nprivate fun
parseDuration(value: String, strictIso: Boolean): Duration {\n    var length = value.length\n    if (length == 0) throw
IllegalArgumentException(\"The string is empty\")\n    var index = 0\n    var result = Duration.ZERO\n    val
infinityString = \"Infinity\"\n    when (value[index]) {\n        '+', '-' -> index++\n    }\n    val hasSign = index > 0\n    val
isNegative = hasSign && value.startsWith('-')\n    when {\n        length <= index ->\n            throw
IllegalArgumentException(\"No components\")\n        value[index] == 'P' -> {\n            if (++index == length) throw
IllegalArgumentException()\n            val nonDigitSymbols = \"+-.\", var isTimeComponent = false\n            var
prevUnit: DurationUnit? = null\n            while (index < length) {\n                if (value[index] == 'T') {\n
                    if (isTimeComponent || ++index == length) throw IllegalArgumentException()\n                    isTimeComponent =
true\n                    continue\n                }\n                val component = value.substringWhile(index) { it in '0'..'9' || it in
nonDigitSymbols }\n                if (component.isEmpty()) throw IllegalArgumentException()\n                index +=
component.length\n                val unitChar = value.getOrElse(index) { throw IllegalArgumentException(\"Missing
unit for value $component\") }\n                index++\n                val unit = durationUnitByIsoChar(unitChar,
isTimeComponent)\n                if (prevUnit != null && prevUnit <= unit) throw
IllegalArgumentException(\"Unexpected order of duration components\")\n                prevUnit = unit\n                val
dotIndex = component.indexOf('.')\n                if (unit == DurationUnit.SECONDS && dotIndex > 0) {\n
                    val whole = component.substring(0, dotIndex)\n                    result +=
                    parseOverLongIsoComponent(whole).toDuration(unit)\n                    result +=
                    component.substring(dotIndex).toDouble().toDuration(unit)\n                } else {\n                    result +=
                    parseOverLongIsoComponent(component).toDuration(unit)\n                }\n            }\n            strictIso ->\n                throw
IllegalArgumentException()\n            value.regionMatches(index, infinityString, 0, length = maxOf(length -
index, infinityString.length), ignoreCase = true) -> {\n                result = Duration.INFINITE\n            }\n            else -> {\n
                // parse default string format\n                var prevUnit: DurationUnit? = null\n                var afterFirst = false\n                var
allowSpaces = !hasSign\n                if (hasSign && value[index] == '(' && value.last() == ')') {\n
                    allowSpaces = true\n                }\n                if (++index == --length) throw
IllegalArgumentException(\"No components\")\n            }\n            while (index < length) {\n                if (afterFirst && allowSpaces) {\n
                    index =

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value.skipWhile(index) { it == ' ' } \n                } \n                afterFirst = true \n                val component =
value.substringWhile(index) { it in '0'..'9' || it == '.' } \n                if (component.isEmpty()) throw
IllegalArgumentException() \n                index += component.length \n                val unitName =
value.substringWhile(index) { it in 'a'..'z' } \n                index += unitName.length \n                val unit =
durationUnitByShortName(unitName) \n                if (prevUnit != null && prevUnit <= unit) throw
IllegalArgumentException("Unexpected order of duration components") \n                prevUnit = unit \n                val
dotIndex = component.indexOf('.') \n                if (dotIndex > 0) { \n                val whole = component.substring(0,
dotIndex) \n                result += whole.toDouble().toDuration(unit) \n                result +=
component.substring(dotIndex).toDouble().toDuration(unit) \n                if (index < length) throw
IllegalArgumentException("Fractional component must be last") \n                } else { \n                result +=
component.toDouble().toDuration(unit) \n                } \n                } \n                } \n                } \n                return if (isNegative) -result else
result \n} \n \n private fun parseOverLongIsoComponent(value: String): Long { \n val length = value.length \n var
startIndex = 0 \n if (length > 0 && value[0] in "+-") startIndex++ \n if ((length - startIndex) > 16 &&
(startIndex..value.lastIndex).all { value[it] in '0'..'9' }) { \n // all chars are digits, but more than
ceiling(log10(MAX_MILLIS / 1000)) of them \n return if (value[0] == '-') Long.MIN_VALUE else
Long.MAX_VALUE \n } \n // TODO: replace with just toLong after min JDK becomes 8 \n return if
(value.startsWith("+")) value.drop(1).toLong() else value.toLong() \n} \n \n private inline fun
String.substringWhile(startIndex: Int, predicate: (Char) -> Boolean): String = \n substring(startIndex,
skipWhile(startIndex, predicate)) \n private inline fun String.skipWhile(startIndex: Int, predicate: (Char) ->
Boolean): Int { \n var i = startIndex \n while (i < length && predicate(this[i])) i++ \n return i \n} \n \n \n \n \n \n
The ranges are chosen so that they are: \n // - symmetric relative to zero: this greatly simplifies operations with sign,
e.g. unaryMinus and minus. \n // - non-overlapping, but adjacent: the first value that doesn't fit in nanos range, can be
exactly represented in millis. \n \n internal const val NANOS_IN_MILLIS = 1_000_000 \n // maximum number
duration can store in nanosecond range \n internal const val MAX_NANOS = Long.MAX_VALUE / 2 /
NANOS_IN_MILLIS * NANOS_IN_MILLIS - 1 // ends in ..._999_999 \n // maximum number duration can store in
millisecond range, also encodes an infinite value \n internal const val MAX_MILLIS = Long.MAX_VALUE / 2 \n //
MAX_NANOS expressed in milliseconds \n private const val MAX_NANOS_IN_MILLIS = MAX_NANOS /
NANOS_IN_MILLIS \n private fun nanosToMillis(nanos: Long): Long = nanos / NANOS_IN_MILLIS \n private
fun millisToNanos(millis: Long): Long = millis * NANOS_IN_MILLIS \n private fun
durationOfNanos(normalNanos: Long) = Duration(normalNanos shl 1) \n private fun durationOfMillis(normalMillis:
Long) = Duration((normalMillis shl 1) + 1) \n private fun durationOf(normalValue: Long, unitDiscriminator: Int) =
Duration((normalValue shl 1) + unitDiscriminator) \n private fun durationOfNanosNormalized(nanos: Long) = \n if
(nanos in -MAX_NANOS..MAX_NANOS) { \n durationOfNanos(nanos) \n } else { \n
durationOfMillis(nanosToMillis(nanos)) \n } \n private fun durationOfMillisNormalized(millis: Long) = \n if
(millis in -MAX_NANOS_IN_MILLIS..MAX_NANOS_IN_MILLIS) { \n
durationOfNanos(millisToNanos(millis)) \n } else { \n durationOfMillis(millis.coerceIn(-MAX_MILLIS,
MAX_MILLIS)) \n } \n \n internal expect val durationAssertionsEnabled: Boolean \n \n internal expect fun
formatToExactDecimals(value: Double, decimals: Int): String \n \n internal expect fun formatUpToDecimals(value:
Double, decimals: Int): String, "/* \n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file. \n */ \n @file:kotlin.jvm.JvmName("UnsignedKt") \n package
kotlin \n \n @PublishedApi \n internal fun uintCompare(v1: Int, v2: Int): Int = (v1 xor
Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE) \n @PublishedApi \n internal fun ulongCompare(v1: Long,
v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor Long.MIN_VALUE) \n \n @PublishedApi \n internal
fun uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() / v2.toLong()).toUInt() \n @PublishedApi \n internal fun
uintRemainder(v1: UInt, v2: UInt): UInt = (v1.toLong() % v2.toLong()).toUInt() \n \n // Division and remainder are
based on Guava's UnsignedLongs implementation \n // Copyright 2011 The Guava
Authors \n \n @PublishedApi \n internal fun ulongDivide(v1: ULong, v2: ULong): ULong { \n val dividend =

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v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63:\n        return if (v1 < v2)\n        ULong(0) else ULong(1)\n    }\n    // Optimization - use signed division if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend / divisor)\n    }\n    // Otherwise, approximate the quotient, check,\n    and correct if necessary.\n    val quotient = ((dividend ushr 1) / divisor) shl 1\n    val rem = dividend - quotient *\n    divisor\n    return ULong(quotient + if (ULong(rem) >= ULong(divisor)) 1 else 0)\n}\n\n@PublishedApi\ninternal\nfun ulongRemainder(v1: ULong, v2: ULong): ULong {\n    val dividend = v1.toLong()\n    val divisor =\n    v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63:\n        return if (v1 < v2) {\n            v1 // dividend <\n            divisor\n        } else {\n            v1 - v2 // dividend >= divisor\n        }\n    }\n    // Optimization - use signed\n    modulus if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend % divisor)\n    }\n    // Otherwise, approximate the quotient, check, and correct if necessary.\n    val quotient = ((dividend ushr 1)\n    / divisor) shl 1\n    val rem = dividend - quotient * divisor\n    return ULong(rem - if (ULong(rem) >=\n    ULong(divisor)) divisor else 0)\n}\n\n@PublishedApi\ninternal fun doubleToUInt(v: Double): UInt = when {\n    v.isNaN() -> 0u\n    v <= UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n    v >=\n    UInt.MAX_VALUE.toDouble() -> UInt.MAX_VALUE\n    v <= Int.MAX_VALUE -> v.toInt().toUInt()\n    else -\n    > (v - Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt()\n    // Int.MAX_VALUE < v <\n    UInt.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun doubleToULong(v: Double): ULong = when {\n    v.isNaN() -> 0u\n    v <= ULong.MIN_VALUE.toDouble() -> ULong.MIN_VALUE\n    v >=\n    ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n    v < Long.MAX_VALUE ->\n    v.toLong().toULong()\n    // Real values from Long.MAX_VALUE to (Long.MAX_VALUE + 1) are not\n    representable in Double, so don't handle them.\n    else -> (v - 9223372036854775808.0).toLong().toULong() +\n    9223372036854775808uL\n    // Long.MAX_VALUE + 1 < v <\n    ULong.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun uintToDouble(v: Int): Double = (v and\n    Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n}\n\n@PublishedApi\ninternal fun\n    ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n}\n\n@PublishedApi\ninternal fun\n    ulongToString(v: Long): String = ulongToString(v, 10)\n\n@PublishedApi\ninternal fun\n    ulongToString(v: Long, base: Int): String {\n    if (v >= 0) return v.toString(base)\n    var quotient = ((v ushr 1) / base) shl 1\n    var rem = v - quotient * base\n    if (rem >= base) {\n        rem -= base\n        quotient += 1\n    }\n    return quotient.toString(base) +\n    rem.toString(base)\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language\n    contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n    license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\CollectionsKt")\n\npackage\n    kotlin.collections\n\n/**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through\n    the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable(crossinline iterator: () -> Iterator<T>): Iterable<T>\n    = object : Iterable<T> {\n        override fun iterator(): Iterator<T> = iterator()\n    }\n\n/**\n * A wrapper over another\n    [Iterable] (or any other object that can produce an [Iterator]) that returns\n * an indexing iterator.\n */\n\ninternal class\n    IndexingIterable<out T>(private val iteratorFactory: () -> Iterator<T>) : Iterable<IndexedValue<T>> {\n        override\n        fun iterator(): Iterator<IndexedValue<T>> = IndexingIterator(iteratorFactory())\n    }\n\n/**\n * Returns the size of\n    this iterable if it is known, or `null` otherwise.\n */\n\n@PublishedApi\ninternal fun <T>\n    Iterable<T>.collectionSizeOrNull(): Int? = if (this is Collection<*>) this.size else null\n\n/**\n * Returns the size of\n    this iterable if it is known, or the specified [default] value otherwise.\n */\n\n@PublishedApi\ninternal fun <T>\n    Iterable<T>.collectionSizeOrDefault(default: Int): Int = if (this is Collection<*>) this.size else default\n\n/**\n * Returns a single list of all elements from all collections in the given collection.\n * @sample\n    samples.collections.Iterables.Operations.flattenIterable\n */\n\npublic fun <T> Iterable<Iterable<T>>.flatten():\n    List<T> {\n    val result = ArrayList<T>()\n    for (element in this) {\n        result.addAll(element)\n    }\n    return\n    result\n}\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this\n    collection,\n * *second* list is built from the second values of each pair from this collection.\n * @sample\n    samples.collections.Iterables.Operations.unzipIterable\n */\n\npublic fun <T, R> Iterable<Pair<T, R>>.unzip():

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Pair<List<T>, List<R>> {
    val expectedSize = collectionSizeOrDefault(10)
    val listT = ArrayList<T>(expectedSize)
    val listR = ArrayList<R>(expectedSize)
    for (pair in this) {
        listT.add(pair.first)
        listR.add(pair.second)
    }
    return listT to listR
}
/* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("SequencesKt")
package kotlin.sequences
import kotlin.random.Random

/** Given an [iterator] function constructs a [Sequence] that returns values through the [Iterator] provided by that function.
 * The values are evaluated lazily, and the sequence is potentially infinite.
 */
@sample samples.collections.Sequences.Building.sequenceFromIterator
@kotlin.internal.InlineOnly
public inline fun <T> Sequence(crossinline iterator: () -> Iterator<T>): Sequence<T> = object : Sequence<T> {
    override fun iterator(): Iterator<T> = iterator()
}
/** Creates a sequence that returns all elements from this iterator. The sequence is constrained to be iterated only once.
 */
@sample samples.collections.Sequences.Building.sequenceFromIterator
public fun <T> Iterator<T>.asSequence(): Sequence<T> = Sequence { this }.constrainOnce()
/** Creates a sequence that returns the specified values.
 */
@sample samples.collections.Sequences.Building.sequenceOfValues
public fun <T> sequenceOf(vararg elements: T): Sequence<T> = if (elements.isEmpty()) emptySequence() else elements.asSequence()
/** Returns an empty sequence.
 */
public fun <T> emptySequence(): Sequence<T> = EmptySequence
private object EmptySequence : Sequence<Nothing>, DropTakeSequence<Nothing> {
    override fun iterator(): Iterator<Nothing> = EmptyIterator
    override fun drop(n: Int) = EmptySequence
    override fun take(n: Int) = EmptySequence
}
/** Returns this sequence if it's not `null` and the empty sequence otherwise.
 */
@sample samples.collections.Sequences.Usage.sequenceOrEmpty
@kotlin.SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>?.orEmpty(): Sequence<T> = this ?: emptySequence()
/** Returns a sequence that iterates through the elements either of this sequence or, if this sequence turns out to be empty, of the sequence returned by [defaultValue] function.
 */
@sample samples.collections.Sequences.Usage.sequenceIfEmpty
@kotlin.SinceKotlin("1.3")
public fun <T> Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {
    val iterator = this@ifEmpty.iterator()
    if (iterator.hasNext()) {
        yieldAll(iterator)
    } else {
        yieldAll(defaultValue())
    }
}
/** Returns a sequence of all elements from all sequences in this sequence.
 * The operation is _intermediate_ and _stateless_.
 */
@sample samples.collections.Sequences.Transformations.flattenSequenceOfSequences
public fun <T> Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }
/** Returns a sequence of all elements from all iterables in this sequence.
 * The operation is _intermediate_ and _stateless_.
 */
@sample samples.collections.Sequences.Transformations.flattenSequenceOfLists
@kotlin.jvm.JvmName("flattenSequenceOfIterable")
public fun <T> Sequence<Iterable<T>>.flatten(): Sequence<T> = flatten { it.iterator() }
private fun <T, R> Sequence<T>.flatten(iterator: (T) -> Iterator<R>): Sequence<R> {
    if (this is TransformingSequence<*, *>) {
        return (this as TransformingSequence<*, T>).flatten(iterator)
    }
    return FlatteningSequence(this, { it }, iterator)
}
/** Returns a pair of lists, where **first* list is built from the first values of each pair from this sequence, **second* list is built from the second values of each pair from this sequence.
 * The operation is _terminal_.
 */
@sample samples.collections.Sequences.Transformations.unzip
public fun <T, R> Sequence<Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {
    val listT = ArrayList<T>()
    val listR = ArrayList<R>()
    for (pair in this) {
        listT.add(pair.first)
        listR.add(pair.second)
    }
    return listT to listR
}
/** Returns a sequence that yields elements of this sequence randomly shuffled.
 * Note that every iteration of the sequence returns elements in a different order.
 * The operation is _intermediate_ and _stateful_.
 */
@kotlin.SinceKotlin("1.4")
public fun <T> Sequence<T>.shuffled(): Sequence<T> = shuffled(Random)
/** Returns a sequence that yields elements of this sequence randomly shuffled using the specified [random] instance as the source of randomness.
 * Note that every iteration of the sequence returns elements in a
 */

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different order.\n * The operation is _intermediate_ and _stateful_.\n * Since Kotlin("1.4")\npublic fun <T>
Sequence<T>.shuffled(random: Random): Sequence<T> = sequence<T> {\n    val buffer = toMutableList()\n
while (buffer.isNotEmpty()) {\n    val j = random.nextInt(buffer.size)\n    val last = buffer.removeLast()\n
val value = if (j < buffer.size) buffer.set(j, last) else last\n    yield(value)\n    }\n}\n\n/**\n * A sequence that
returns the values from the underlying [sequence] that either match or do not match\n * the specified [predicate].\n
*\n * @param sendWhen If `true`, values for which the predicate returns `true` are returned. Otherwise,\n * values
for which the predicate returns `false` are returned\n *\ninternal class FilteringSequence<T>(\n    private val
sequence: Sequence<T>,\n    private val sendWhen: Boolean = true,\n    private val predicate: (T) -> Boolean\n) :
Sequence<T> {\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator =
sequence.iterator()\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var nextItem: T?
= null\n\n        private fun calcNext() {\n            while (iterator.hasNext()) {\n                val item = iterator.next()\n
                if (predicate(item) == sendWhen) {\n                    nextItem = item\n                    nextState = 1\n
                }\n            }\n            nextState = 0\n        }\n\n        override fun next(): T {\n            if (nextState
== -1)\n                calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n            val
result = nextItem\n            nextItem = null\n            nextState = -1\n            @Suppress("UNCHECKED_CAST")\n
            return result as T\n        }\n\n        override fun hasNext(): Boolean {\n            if (nextState == -1)\n
                calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * A sequence which returns the results of
applying the given [transformer] function to the values\n * in the underlying [sequence].\n *\ninternal class
TransformingSequence<T, R>\nconstructor(private val sequence: Sequence<T>, private val transformer: (T) -> R) :
Sequence<R> {\n    override fun iterator(): Iterator<R> = object : Iterator<R> {\n        val iterator =
sequence.iterator()\n        override fun next(): R {\n            return transformer(iterator.next())\n        }\n\n
        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n\n    internal fun <E>
flatten(iterator: (R) -> Iterator<E>): Sequence<E> {\n        return FlatteningSequence<T, R, E>(sequence,
transformer, iterator)\n    }\n}\n\n/**\n * A sequence which returns the results of applying the given [transformer]
function to the values\n * in the underlying [sequence], where the transformer function takes the index of the value
in the underlying\n * sequence along with the value itself.\n *\ninternal class TransformingIndexedSequence<T,
R>\nconstructor(private val sequence: Sequence<T>, private val transformer: (Int, T) -> R) : Sequence<R> {\n
    override fun iterator(): Iterator<R> = object : Iterator<R> {\n        val iterator = sequence.iterator()\n
        var index = 0\n        override fun next(): R {\n            return transformer(checkIndexOverflow(index++), iterator.next())\n
        }\n\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A
sequence which combines values from the underlying [sequence] with their indices and returns them as\n *
[IndexValue] objects.\n *\ninternal class IndexingSequence<T>\nconstructor(private val sequence:
Sequence<T>) : Sequence<IndexedValue<T>> {\n    override fun iterator(): Iterator<IndexedValue<T>> = object :
Iterator<IndexedValue<T>> {\n        val iterator = sequence.iterator()\n        var index = 0\n        override fun next():
IndexedValue<T> {\n            return IndexedValue(checkIndexOverflow(index++), iterator.next())\n        }\n\n
        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence which
takes the values from two parallel underlying sequences, passes them to the given\n * [transform] function and
returns the values returned by that function. The sequence stops returning\n * values as soon as one of the
underlying sequences stops returning values.\n *\ninternal class MergingSequence<T1, T2, V>\nconstructor(\n    private val sequence1: Sequence<T1>,\n    private val sequence2: Sequence<T2>,\n    private val transform: (T1,
T2) -> V\n) : Sequence<V> {\n    override fun iterator(): Iterator<V> = object : Iterator<V> {\n        val iterator1 =
sequence1.iterator()\n        val iterator2 = sequence2.iterator()\n        override fun next(): V {\n            return
transform(iterator1.next(), iterator2.next())\n        }\n\n        override fun hasNext(): Boolean {\n            return
iterator1.hasNext() && iterator2.hasNext()\n        }\n    }\n}\n\ninternal class FlatteningSequence<T, R,
E>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val transformer: (T) -> R,\n    private val
iterator: (R) -> Iterator<E>\n) : Sequence<E> {\n    override fun iterator(): Iterator<E> = object : Iterator<E> {\n
        val iterator = sequence.iterator()\n        var itemIterator: Iterator<E>? = null\n        override fun next(): E {\n
            if (!ensureItemIterator())\n                throw NoSuchElementException()\n            return itemIterator!!.next()\n
        }\n    }\n}

```

```

}

override fun hasNext(): Boolean {
    return ensureItemIterator()
}

private fun
ensureItemIterator(): Boolean {
    if (itemIterator?.hasNext() == false)
        itemIterator = null
    while (itemIterator == null) {
        if (!iterator.hasNext())
            return false
        } else {
            val element = iterator.next()
            val nextItemIterator = iterator(transformer(element))
        }
    }
    if (nextItemIterator.hasNext())
        itemIterator = nextItemIterator
    return true
}

}

}

return true
}

}

}

internal fun <T, C, R> flatMapIndexed(source:
Sequence<T>, transform: (Int, T) -> C, iterator: (C) -> Iterator<R>): Sequence<R> =
sequence {
    var
index = 0
    for (element in source) {
        val result = transform(checkIndexOverflow(index++), element)
        yieldAll(iterator(result))
    }
}

/**
 * A sequence that supports drop(n) and take(n) operations
 */
internal interface DropTakeSequence<T> : Sequence<T> {
    fun drop(n: Int): Sequence<T>
    fun take(n:
Int): Sequence<T>
}

/**
 * A sequence that skips [startIndex] values from the underlying [sequence]
 * and stops returning values right before [endIndex], i.e. stops at `endIndex - 1`
 */
internal class SubSequence<T>(\n
private val sequence: Sequence<T>,\n
private val startIndex: Int,\n
private val endIndex: Int) : Sequence<T>,\n
DropTakeSequence<T> {
    init {\n
        require(startIndex >= 0) { "\"startIndex should be non-negative, but is
$startIndex\""}
        require(endIndex >= 0) { "\"endIndex should be non-negative, but is
$endIndex\""}
        require(endIndex >= startIndex) { "\"endIndex should be not less than
startIndex, but was $endIndex < $startIndex\""}
    }
    private val count: Int get() = endIndex - startIndex
    override fun drop(n: Int): Sequence<T> = if (n
>= count) emptySequence() else SubSequence(sequence, startIndex + n, endIndex)
    override fun take(n: Int):
Sequence<T> = if (n >= count) this else SubSequence(sequence, startIndex,
startIndex + n)
    override fun
iterator() = object : Iterator<T> {
        val iterator = sequence.iterator()
        var position = 0
        //
Shouldn't be called from constructor to avoid premature iteration
        private fun drop() {
            while (position
< startIndex && iterator.hasNext()) {
                iterator.next()
                position++
            }
        }
        override fun hasNext(): Boolean {
            drop()
            return (position < endIndex) && iterator.hasNext()
        }
        override fun next(): T {
            drop()
            if (position >= endIndex)
                throw
NoSuchElementException()
            position++
            return iterator.next()
        }
    }
}

/**
 * A
sequence that returns at most [count] values from the underlying [sequence], and
stops returning values
 * as soon as that count is reached.
 */
internal class TakeSequence<T>(\n
private val sequence: Sequence<T>,\n
private
val count: Int) : Sequence<T>,\n
DropTakeSequence<T> {
    init {\n
        require(count >= 0) { "\"count must be
non-negative, but was $count.\""}
    }
    override fun drop(n: Int): Sequence<T> = if (n >= count)
emptySequence() else SubSequence(sequence, n, count)
    override fun take(n: Int): Sequence<T> = if (n >=
count) this else TakeSequence(sequence, n)
    override fun iterator(): Iterator<T> = object : Iterator<T> {
        var left = count
        val iterator = sequence.iterator()
        override fun next(): T {
            if (left == 0)
                throw NoSuchElementException()
            left--
            return iterator.next()
        }
    }
    override fun
hasNext(): Boolean {
        return left > 0 && iterator.hasNext()
    }
}

/**
 * A sequence that
returns values from the underlying [sequence] while the [predicate] function
returns `true`, and stops returning
 * values once the function returns `false` for the next element.
 */
internal class
TakeWhileSequence<T>(\n
constructor(\n
private val sequence: Sequence<T>,\n
private val predicate: (T) ->
Boolean) : Sequence<T> {
    override fun iterator(): Iterator<T> = object : Iterator<T> {
        val iterator =
sequence.iterator()
        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for
continue
        var nextItem: T?
= null
        private fun calcNext() {
            if (iterator.hasNext()) {
                val item = iterator.next()
                if (predicate(item)) {
                    nextState = 1
                    nextItem = item
                    return
                }
                nextState = 0
            }
        }
        override fun next(): T {
            if (nextState == -1)
                calcNext() // will change nextState
            if (nextState == 0)
                throw NoSuchElementException()
            @SuppressWarnings("UNCHECKED_CAST")
            val result = nextItem as T
            // Clean next to avoid keeping
reference on yielded instance
            nextItem = null
            nextState = -1
            return result
        }
    }
    override fun hasNext(): Boolean {
        if (nextState == -1)
            calcNext() // will change nextState
        return nextState == 1
    }
}

/**
 * A sequence that skips the specified number of values from the
underlying [sequence] and returns
 * all values after that.
 */
internal class DropSequence<T>(\n
private val

```



```

sequence: Sequence<T>, private val count: Int) : Sequence<T>, DropTakeSequence<T> {
    init {
        require(count >= 0) { "count must be non-negative, but was $count." }
    }
    override fun drop(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0) DropSequence(this, n) else DropSequence(sequence, n1) }
    override fun take(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0) TakeSequence(this, n) else SubSequence(sequence, count, n1) }
    override fun iterator(): Iterator<T> = object : Iterator<T> {
        val iterator = sequence.iterator()
        var left = count // Shouldn't be called from constructor to avoid premature iteration
        private fun drop() {
            while (left > 0 && iterator.hasNext()) {
                iterator.next()
                left--
            }
        }
        override fun next(): T {
            drop()
            return iterator.next()
        }
        override fun hasNext(): Boolean {
            drop()
            return iterator.hasNext()
        }
    }
}

/** A sequence that skips the values from the underlying [sequence] while the given [predicate] returns `true` and returns all values after that. */
internal class DropWhileSequence<T> {
    constructor(
        private val sequence: Sequence<T>,
        private val predicate: (T) -> Boolean) : Sequence<T> {
        override fun iterator(): Iterator<T> = object : Iterator<T> {
            val iterator = sequence.iterator()
            var dropState: Int = -1 // -1 for not dropping, 1 for nextItem, 0 for normal iteration
            var nextItem: T? = null
            private fun drop() {
                while (iterator.hasNext()) {
                    val item = iterator.next()
                    if (!predicate(item)) {
                        nextItem = item
                        dropState = 1
                        return
                    }
                }
                dropState = 0
            }
            override fun next(): T {
                if (dropState == -1) drop()
                if (dropState == 1) {
                    @Suppress("UNCHECKED_CAST") val result = nextItem as T
                    nextItem = null
                    dropState = 0
                    return result
                }
                return iterator.next()
            }
            override fun hasNext(): Boolean {
                if (dropState == -1) drop()
                return dropState == 1 || iterator.hasNext()
            }
        }
    }
}

internal class DistinctSequence<T, K>(private val source: Sequence<T>, private val keySelector: (T) -> K) : Sequence<T> {
    override fun iterator(): Iterator<T> = DistinctIterator(source.iterator(), keySelector)
}

private class DistinctIterator<T, K>(private val source: Iterator<T>, private val keySelector: (T) -> K) : AbstractIterator<T>() {
    private val observed = HashSet<K>()
    override fun computeNext() {
        while (source.hasNext()) {
            val next = source.next()
            val key = keySelector(next)
            if (observed.add(key)) {
                setNext(next)
                return
            }
        }
        done()
    }
}

private class GeneratorSequence<T : Any>(private val getInitialValue: () -> T?, private val getNextValue: (T) -> T?) : Sequence<T> {
    override fun iterator(): Iterator<T> = object : Iterator<T> {
        var nextItem: T? = null
        var nextState: Int = -2 // -2 for initial unknown, -1 for next unknown, 0 for done, 1 for continue
        private fun calcNext() {
            nextItem = if (nextState == -2) getInitialValue() else getNextValue(nextItem!!)
            nextState = if (nextItem == null) 0 else 1
        }
        override fun next(): T {
            if (nextState < 0) calcNext()
            if (nextState == 0) throw NoSuchElementException()
            val result = nextItem as T // Do not clean nextItem (to avoid keeping reference on yielded instance) -- need to keep state for getNextValue
            nextState = -1
            return result
        }
        override fun hasNext(): Boolean {
            if (nextState < 0) calcNext()
            return nextState == 1
        }
    }
}

/** Returns a wrapper sequence that provides values of this sequence, but ensures it can be iterated only one time.
 * The operation is _intermediate_ and _stateless_.
 * [IllegalStateException] is thrown on iterating the returned sequence for the second time and the following times. */
public fun <T> Sequence<T>.constrainOnce(): Sequence<T> {
    // as? does not work in js
    //return this as? ConstrainedOnceSequence<T>?: ConstrainedOnceSequence(this)
    return if (this is ConstrainedOnceSequence<T>) this else ConstrainedOnceSequence(this)
}

/** Returns a sequence which invokes the function to calculate the next value on each iteration until the function returns `null`.
 * The returned sequence is constrained to be iterated only once.
 * @see constrainOnce
 * @see kotlin.sequences.sequence
 * @sample samples.collections.Sequences.Building.generateSequence
 */
public fun <T : Any> generateSequence(nextFunction: () -> T?): Sequence<T> {
    return GeneratorSequence(nextFunction, { nextFunction() }).constrainOnce()
}

/** Returns a sequence defined by the starting value [seed] and the function [nextFunction], which is invoked to calculate the next value based on

```

the previous one on each iteration. The sequence produces values until it encounters first `null` value. If [seed] is `null`, an empty sequence is produced. The sequence can be iterated multiple times, each time starting with [seed]. @see kotlin.sequences.sequence @sample samples.collections.Sequences.Building.generateSequenceWithSeed

```

*\/@kotlin.internal.LowPriorityInOverloadResolution\npublic fun <T : Any> generateSequence(seed: T?,
nextFunction: (T) -> T?): Sequence<T> =\n if (seed == null)\n     EmptySequence\n else\n GeneratorSequence({ seed }, nextFunction)\n\n/**\n * Returns a sequence defined by the function [seedFunction],
which is invoked to produce the starting value,\n * and the [nextFunction], which is invoked to calculate the next
value based on the previous one on each iteration.\n * The sequence produces values until it encounters first
`null` value.\n * If [seedFunction] returns `null`, an empty sequence is produced.\n * The sequence can be
iterated multiple times.\n * @see kotlin.sequences.sequence\n * @sample
samples.collections.Sequences.Building.generateSequenceWithLazySeed\n */\npublic fun <T : Any>
generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =\n
GeneratorSequence(seedFunction, nextFunction)\n\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("PreconditionsKt")\n\npackage
kotlin\n\nimport kotlin.contracts.contract\n\n/**\n * Throws an [IllegalArgumentException] if the [value] is false.\n
*\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic
inline fun require(value: Boolean): Unit {\n contract {\n     returns() implies value\n } require(value) {\n
"Failed requirement." }\n}\n\n/**\n * Throws an [IllegalArgumentException] with the result of calling
[lazyMessage] if the [value] is false.\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun require(value: Boolean, lazyMessage: () -> Any): Unit {\n
contract {\n     returns() implies value\n } if (!value) {\n     val message = lazyMessage()\n     throw
IllegalArgumentException(message.toString())\n }\n}\n\n/**\n * Throws an [IllegalArgumentException] if the
[value] is null. Otherwise returns the not null value.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Any>
requireNotNull(value: T?): T {\n contract {\n     returns() implies (value != null)\n } return
requireNotNull(value) {"Required value was null." }\n}\n\n/**\n * Throws an [IllegalArgumentException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n * @sample
samples.misc.Preconditions.failRequireNotNullWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T : Any> requireNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n     returns() implies (value
!= null)\n } if (value == null) {\n     val message = lazyMessage()\n     throw
IllegalArgumentException(message.toString())\n } else {\n     return value\n }\n}\n\n/**\n * Throws an
[IllegalStateException] if the [value] is false.\n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun
check(value: Boolean): Unit {\n contract {\n     returns() implies value\n } check(value) {"Check failed."
}\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is false.\n
*\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic
inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n contract {\n     returns() implies value\n }
if (!value) {\n     val message = lazyMessage()\n     throw IllegalStateException(message.toString())\n
}\n}\n\n/**\n * Throws an [IllegalStateException] if the [value] is null. Otherwise\n * returns the not null value.\n
*\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic
inline fun <T : Any> checkNotNull(value: T?): T {\n contract {\n     returns() implies (value != null)\n } return
checkNotNull(value) {"Required value was null." }\n}\n\n/**\n * Throws an [IllegalStateException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n     returns() implies (value != null)\n
}\n if (value == null) {\n     val message = lazyMessage()\n     throw

```

```

IllegalStateException(message.toString())\n } else {\n     return value\n }\n}\n\n/n/**\n * Throws an
[IllegalStateException] with the given [message].\n * \n * @sample samples.misc.Preconditions.failWithError\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun error(message: Any): Nothing = throw
IllegalStateException(message.toString())\n"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n\npackage kotlin.collections\n\n//\n\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n\nimport
kotlin.js.*\nimport primitiveArrayConcat\nimport withType\nimport kotlin.ranges.contains\nimport
kotlin.ranges.reversed\n\n/n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n\npublic actual fun <T> Array<out T>.elementAt(index:
Int): T {\n     return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}")
}\n}\n\n/n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n\npublic
actual fun ByteArray.elementAt(index: Int): Byte {\n     return elementAtOrElse(index) { throw
IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n\n/n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n\npublic actual fun ShortArray.elementAt(index: Int): Short
{\n     return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}")
}\n}\n\n/n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n\npublic
actual fun IntArray.elementAt(index: Int): Int {\n     return elementAtOrElse(index) { throw
IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n\n/n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n\npublic actual fun LongArray.elementAt(index: Int): Long
{\n     return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}")
}\n}\n\n/n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n\npublic
actual fun FloatArray.elementAt(index: Int): Float {\n     return elementAtOrElse(index) { throw
IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n\n/n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n\npublic actual fun DoubleArray.elementAt(index: Int):
Double {\n     return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}")
}\n}\n\n/n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n\npublic
actual fun BooleanArray.elementAt(index: Int): Boolean {\n     return elementAtOrElse(index) { throw
IndexOutOfBoundsException("\index: $index, size: $size}") }\n}\n\n/n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n * \n\npublic actual fun CharArray.elementAt(index: Int): Char
{\n     return elementAtOrElse(index) { throw IndexOutOfBoundsException("\index: $index, size: $size}")
}\n}\n\n/n/**\n * Returns a [List] that wraps the original array.\n * \n\npublic actual fun <T> Array<out T>.asList():
List<T> {\n     return ArrayList<T>(this.unsafeCast<Array<Any?>>())\n}\n\n/n/**\n * Returns a [List] that wraps the
original array.\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun ByteArray.asList(): List<Byte> {\n
return this.unsafeCast<Array<Byte>>().asList()\n}\n\n/n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun ShortArray.asList(): List<Short> {\n     return
this.unsafeCast<Array<Short>>().asList()\n}\n\n/n/**\n * Returns a [List] that wraps the original array.\n
*\n * \n\n@kotlin.internal.InlineOnly\npublic actual inline fun IntArray.asList(): List<Int> {\n     return
this.unsafeCast<Array<Int>>().asList()\n}\n\n/n/**\n * Returns a [List] that wraps the original array.\n

```

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*\n@kotlin.internal.InlineOnly\npublic actual inline fun LongArray.asList(): List<Long> {\n    return
this.unsafeCast<Array<Long>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@kotlin.internal.InlineOnly\npublic actual inline fun FloatArray.asList(): List<Float> {\n    return
this.unsafeCast<Array<Float>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@kotlin.internal.InlineOnly\npublic actual inline fun DoubleArray.asList(): List<Double> {\n    return
this.unsafeCast<Array<Double>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\n@kotlin.internal.InlineOnly\npublic actual inline fun BooleanArray.asList(): List<Boolean> {\n    return
this.unsafeCast<Array<Boolean>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*\npublic actual fun CharArray.asList(): List<Char> {\n    return object : AbstractList<Char>(), RandomAccess {\n
        override val size: Int get() = this@asList.size\n        override fun isEmpty(): Boolean = this@asList.isEmpty()\n
        override fun contains(element: Char): Boolean = this@asList.contains(element)\n        override fun get(index: Int):
Char {\n            AbstractList.checkElementIndex(index, size)\n            return this@asList[index]\n        }\n
        override fun indexOf(element: Char): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as
Any?) !is Char) return -1\n            return this@asList.indexOf(element)\n        }\n        override fun
lastIndexOf(element: Char): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is
Char) return -1\n            return this@asList.lastIndexOf(element)\n        }\n    }\n}\n\n/**\n * Returns `true` if the
two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the
same order.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of
arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of other types are
compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is
equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual infix fun <T>
Array<out T>.contentDeepEquals(other: Array<out T>): Boolean {\n    return
this.contentDeepEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one
another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The specified arrays are
also considered deeply equal if both are `null`.\n * \n * If two corresponding elements are nested arrays, they are
also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n *
The elements of other types are compared for equality with the [equals][Any.equals] function.\n * For floating point
numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*\n@SinceKotlin("1.4")\n@library("arrayDeepEquals")\npublic actual infix fun <T> Array<out
T>?.contentDeepEquals(other: Array<out T>?): Boolean {\n    definedExternally\n}\n\n/**\n * Returns a hash code
based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of
arrays contains itself on any nesting level the behavior is undefined.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual fun <T> Array<out
T>.contentDeepHashCode(): Int {\n    return this.contentDeepHashCode()\n}\n\n/**\n * Returns a hash code based
on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of
arrays contains itself on any nesting level the behavior is undefined.\n
*\n@SinceKotlin("1.4")\n@library("arrayDeepHashCode")\npublic actual fun <T> Array<out
T>?.contentDeepHashCode(): Int {\n    definedExternally\n}\n\n/**\n * Returns a string representation of the
contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays
contains itself on any nesting level that reference\n * is rendered as `[...]` to prevent recursion.\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentDeepToString\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual fun <T> Array<out
T>.contentDeepToString(): String {\n    return this.contentDeepToString()\n}\n\n/**\n * Returns a string
representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n *
If any of arrays contains itself on any nesting level that reference\n * is rendered as `[...]` to prevent recursion.\n * \n *
@sample samples.collections.Arrays.ContentOperations.contentDeepToString\n
*\n@SinceKotlin("1.4")\n@library("arrayDeepToString")\npublic actual fun <T> Array<out

```

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

Returns `true` if the two specified arrays are *structurally* equal to one another, \n \* i.e. contain the same number of the same elements in the same order.\n \* \n \* The elements are compared for equality with the [equals][Any.equals] function.\n \* For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

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

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun IntArray?.contentEquals(other: IntArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun LongArray?.contentEquals(other: LongArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n`

`*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun BooleanArray?.contentEquals(other: BooleanArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are structurally equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it`

means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.

```
*\n@SinceKotlin("1.4")\n@library("arrayEquals")\npublic actual infix fun CharArray?.contentEquals(other: CharArray?): Boolean {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun <T> Array<out T>.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun ByteArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun ShortArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun IntArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun LongArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun FloatArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun DoubleArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun BooleanArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation warning.")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic actual fun CharArray.contentHashCode(): Int {\n    return this.contentHashCode()\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun <T> Array<out T>?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun CharArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun ShortArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun IntArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun LongArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun FloatArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun DoubleArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun BooleanArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin("1.4")\n@library("arrayHashCode")\npublic actual fun CharArray?.contentHashCode(): Int {\n    definedExternally\n}\n/**\n * Returns a string representation of the
```

contents of the specified array as if it is [List].\n \* \n \* @sample

```

samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun <T> Array<out T>.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a
string representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun ByteArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun ShortArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun IntArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun LongArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun FloatArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun DoubleArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun BooleanArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n *^n@Deprecated("Use Kotlin compiler 1.4 to
avoid deprecation warning.\")\n@SinceKotlin("1.1")\n@DeprecatedSinceKotlin(hiddenSince = "1.4")\npublic
actual fun CharArray.contentToString(): String {\n  return this.contentToString()\n}\n\n/**\n * Returns a string
representation of the contents of the specified array as if it is [List].\n * \n * @sample
samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun <T> Array<out T>?.contentToString():
String {\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ByteArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun ShortArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun IntArray?.contentToString(): String {\n

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definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun LongArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun FloatArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun DoubleArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is
[List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun BooleanArray?.contentToString():
String {\n  definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as
if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*\n@SinceKotlin("1.4")\n@library("arrayToString")\npublic actual fun CharArray?.contentToString(): String
{\n  definedExternally\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that
array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it
overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset
the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of
the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this
array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]
or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the
[destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset:
Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T> {\n  arrayCopy(this, destination, destinationOffset,
startIndex, endIndex)\n  return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination]
array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the
subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n *
@param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices
range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): ByteArray {\n  arrayCopy(this.unsafeCast<Array<Byte>>(),
destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex, endIndex)\n  return destination\n}\n\n/**\n
* Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass
the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n
* \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array
to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n
* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this

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array indices or when `startIndex > endIndex`. \n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n \* or when that index is out of the [destination] array indices range. \n \* \n \* @return the [destination] array. \n

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray {\n    arrayCopy(this.unsafeCast<Array<Short>>(), destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n

```

```

*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray {\n    arrayCopy(this.unsafeCast<Array<Int>>(), destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n

```

```

*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray {\n    arrayCopy(this.unsafeCast<Array<Long>>(), destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n

```

```

*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray {\n    arrayCopy(this.unsafeCast<Array<Float>>(), destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n *

```

@param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray {\n    arrayCopy(this.unsafeCast<Array<Double>>(), destination.unsafeCast<Array<Double>>(), destinationOffset, startIndex, endIndex)\n    return
```

destination\n}\n\n/\*\*\n \* Copies this array or its subrange into the [destination] array and returns that array.\n \* \n \* It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray {\n
```

```
arrayCopy(this.unsafeCast<Array<Boolean>>(), destination.unsafeCast<Array<Boolean>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray {\n    arrayCopy(this.unsafeCast<Array<Char>>(), destination.unsafeCast<Array<Char>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n
```

\* Returns new array which is a copy of the original array.\n \* \n \* @sample

```
samples.collections.Arrays.CopyOfOperations.copyOf\n *\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T> Array<out T>.copyOf(): Array<T> {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ByteArray.copyOfOf(): ByteArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```
samples.collections.Arrays.CopyOfOperations.copyOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ShortArray.copyOfOf(): ShortArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```

samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress(\\"NOTHING_TO_INLINE\\")\npublic
actual inline fun IntArray.copyOfOf(): IntArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\npublic actual fun LongArray.copyOfOf(): LongArray {\n    return withType(\\"LongArray\\",
this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress(\\"NOTHING_TO_INLINE\\")\npublic
actual inline fun FloatArray.copyOfOf(): FloatArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns new
array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress(\\"NOTHING_TO_INLINE\\")\npublic
actual inline fun DoubleArray.copyOfOf(): DoubleArray {\n    return this.asDynamic().slice()\n}\n\n/**\n * Returns
new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\npublic actual fun BooleanArray.copyOfOf():
BooleanArray {\n    return withType(\\"BooleanArray\\", this.asDynamic().slice())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\npublic actual fun CharArray.copyOfOf(): CharArray {\n    return withType(\\"CharArray\\",
this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given
[newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize]
is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater
than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
ByteArray.copyOfOf(newSize: Int): ByteArray {\n    require(newSize >= 0) { \\"Invalid new array size: $newSize.\\\"
}\n    return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original
array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if
necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the
[newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are
filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n
*\npublic actual fun ShortArray.copyOfOf(newSize: Int): ShortArray {\n    require(newSize >= 0) { \\"Invalid new
array size: $newSize.\\\" }\n    return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a
copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with
zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated
to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array
are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
IntArray.copyOfOf(newSize: Int): IntArray {\n    require(newSize >= 0) { \\"Invalid new array size: $newSize.\\\" }\n
return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array,
resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n
*\n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If
[newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero
values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual
fun LongArray.copyOfOf(newSize: Int): LongArray {\n    require(newSize >= 0) { \\"Invalid new array size:
$newSize.\\\" }\n    return withType(\\"LongArray\\", arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new
array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded
at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy
array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements
in the copy array are filled with zero values.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n *\npublic actual fun
FloatArray.copyOfOf(newSize: Int): FloatArray {\n    require(newSize >= 0) { \\"Invalid new array size: $newSize.\\\"
}\n    return fillFrom(this, FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original

```

array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with zero values if necessary.\n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf

```

*public actual fun DoubleArray.copyOf(newSize: Int): DoubleArray {
    require(newSize >= 0) { "Invalid new array size: $newSize." }
    return fillFrom(this, DoubleArray(newSize))
}

```

\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with `false` values if necessary.\n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `false` values.\n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf

```

*public actual fun BooleanArray.copyOf(newSize: Int): BooleanArray {
    require(newSize >= 0) { "Invalid new array size: $newSize." }
    return withType("BooleanArray", arrayCopyResize(this, newSize, false))
}

```

\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with null char (`\u0000`) values if necessary.\n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char (`\u0000`) values.\n \* @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf

```

*public actual fun CharArray.copyOf(newSize: Int): CharArray {
    require(newSize >= 0) { "Invalid new array size: $newSize." }
    return withType("CharArray", fillFrom(this, CharArray(newSize)))
}

```

\n \* Returns new array which is a copy of the original array, resized to the given [newSize].\n \* The copy is either truncated or padded at the end with `null` values if necessary.\n \* - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n \* - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values.\n \* @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf

```

*public actual fun <T> Array<out T>.copyOf(newSize: Int): Array<T?> {
    require(newSize >= 0) { "Invalid new array size: $newSize." }
    return arrayCopyResize(this, newSize, null)
}

```

\n \* Returns a new array which is a copy of the specified range of the original array.\n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to copy.\n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

*public actual fun <T> Array<out T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    return this.asDynamic().slice(fromIndex, toIndex)
}

```

\n \* Returns a new array which is a copy of the specified range of the original array.\n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to copy.\n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

*public actual fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    return this.asDynamic().slice(fromIndex, toIndex)
}

```

\n \* Returns a new array which is a copy of the specified range of the original array.\n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to copy.\n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

*public actual fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    return this.asDynamic().slice(fromIndex, toIndex)
}

```

\n \* Returns a new array which is a copy of the specified range of the original array.\n \* @param fromIndex the start of the range (inclusive) to copy.\n \* @param toIndex the end of the range (exclusive) to

copy.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 return this.asDynamic().slice(fromIndex, toIndex)}  
 Returns a new array which is a copy of the specified range of the original array.  
 @param fromIndex the start of the range (inclusive) to copy.  
 @param toIndex the end of the range (exclusive) to copy.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 return withType("LongArray", this.asDynamic().slice(fromIndex, toIndex))  
 Returns a new array which is a copy of the specified range of the original array.  
 @param fromIndex the start of the range (inclusive) to copy.  
 @param toIndex the end of the range (exclusive) to copy.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 return this.asDynamic().slice(fromIndex, toIndex)}  
 Returns a new array which is a copy of the specified range of the original array.  
 @param fromIndex the start of the range (inclusive) to copy.  
 @param toIndex the end of the range (exclusive) to copy.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 return this.asDynamic().slice(fromIndex, toIndex)}  
 Returns a new array which is a copy of the specified range of the original array.  
 @param fromIndex the start of the range (inclusive) to copy.  
 @param toIndex the end of the range (exclusive) to copy.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 return withType("BooleanArray", this.asDynamic().slice(fromIndex, toIndex))  
 Returns a new array which is a copy of the specified range of the original array.  
 @param fromIndex the start of the range (inclusive) to copy.  
 @param toIndex the end of the range (exclusive) to copy.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 return withType("CharArray", this.asDynamic().slice(fromIndex, toIndex))  
 Fills this array or its subrange with the specified [element] value.  
 @param fromIndex the start of the range (inclusive) to fill, 0 by default.  
 @param toIndex the end of the range (exclusive) to fill, size of this array by default.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 this.asDynamic().fill(element, fromIndex, toIndex);  
 Fills this array or its subrange with the specified [element] value.  
 @param fromIndex the start of the range (inclusive) to fill, 0 by default.  
 @param toIndex the end of the range (exclusive) to fill, size of this array by default.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].  
 actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {  
 AbstractList.checkRangeIndexes(fromIndex, toIndex, size)  
 this.asDynamic().fill(element, fromIndex, toIndex);  
 Fills this array or its subrange with the specified [element] value.  
 @param fromIndex the start of the range (inclusive) to fill, 0 by default.  
 @param toIndex the end of the range (exclusive) to fill, size of this array by default.  
 @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.  
 @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].

```

actual fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public

```

```

actual fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Fills this array or its subrange with the specified [element] value.
 * @param fromIndex the start of the range (inclusive) to fill, 0 by default.
 * @param toIndex the end of the range (exclusive) to fill, size of this array by default.
 * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].
 */
@SinceKotlin("1.3")
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit {
    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)
    this.asDynamic().fill(element, fromIndex, toIndex);
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")
public actual inline operator fun <T> Array<out T>.plus(element: T): Array<T> {
    return this.asDynamic().concat(arrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun ByteArray.plus(element: Byte): ByteArray {
    return plus(byteArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun ShortArray.plus(element: Short): ShortArray {
    return plus(shortArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun IntArray.plus(element: Int): IntArray {
    return plus(intArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun LongArray.plus(element: Long): LongArray {
    return plus(longArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun FloatArray.plus(element: Float): FloatArray {
    return plus(floatArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun DoubleArray.plus(element: Double): DoubleArray {
    return plus(doubleArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {
    return plus(booleanArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then the given [element].
 */
@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun CharArray.plus(element: Char): CharArray {
    return plus(charArrayOf(element));
}

/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
@Suppress("ACTUAL_WITHOUT_EXPECT")
public actual operator fun <T> Array<out T>.plus(elements: Collection<T>): Array<T> {
    return arrayPlusCollection(this, elements);
}

/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
public actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {
    return fillFromCollection(this.copyOf(size + elements.size), this.size, elements);
}

/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
public actual operator fun ShortArray.plus(elements: Collection<Short>): ShortArray {
    return fillFromCollection(this.copyOf(size + elements.size), this.size, elements);
}

/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
public actual operator fun IntArray.plus(elements: Collection<Int>): IntArray {
    return fillFromCollection(this.copyOf(size + elements.size), this.size, elements);
}

/**
 * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.
 */
public actual operator fun LongArray.plus(elements: Collection<Long>): LongArray {
    return arrayPlusCollection(this, elements);
}

```



containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun FloatArray.plus(elements: Collection<Float>): FloatArray {
    return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray {
    return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray {
    return arrayPlusCollection(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] collection.

```

public actual operator fun CharArray.plus(elements: Collection<Char>): CharArray {
    return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")
public actual inline operator fun <T> Array<out T>.plus(elements: Array<out T>): Array<T> {
    return this.asDynamic().concat(elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun ByteArray.plus(elements: ByteArray): ByteArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun ShortArray.plus(elements: ShortArray): ShortArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun IntArray.plus(elements: IntArray): IntArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun LongArray.plus(elements: LongArray): LongArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun FloatArray.plus(elements: FloatArray): FloatArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then all elements of the given [elements] array.

```

@Suppress("NOTHING_TO_INLINE")
public actual inline operator fun CharArray.plus(elements: CharArray): CharArray {
    return primitiveArrayConcat(this, elements)
}

```

\* Returns an array containing all elements of the original array and then the given [element].

```

@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")
public actual inline fun <T> Array<out T>.plusElement(element: T): Array<T> {
    return this.asDynamic().concat(arrayOf(element))
}

```

\* Sorts the array in-place.

```

@sample
samples.collections.Arrays.Sorting.sortArray

```

\* @library("primitiveArraySort")

```

public actual fun IntArray.sort(): Unit {
    definedExternally
}

```

\* Sorts the array in-place.

```

@sample
samples.collections.Arrays.Sorting.sortArray

```

\* public actual fun LongArray.sort(): Unit {

```

    @Suppress("DEPRECATION")
    if (size > 1) sort { a: Long, b: Long -> a.compareTo(b) }
}

```

\* Sorts the array in-place.

```

@sample
samples.collections.Arrays.Sorting.sortArray

```

```

*\n@library("primitiveArraySort")\npublic actual fun ByteArray.sort(): Unit {\n  definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n*\n@library("primitiveArraySort")\npublic actual fun ShortArray.sort(): Unit {\n  definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n*\n@library("primitiveArraySort")\npublic actual fun DoubleArray.sort(): Unit {\n  definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample\n samples.collections.Arrays.Sorting.sortArray\n */\n*\n@library("primitiveArraySort")\npublic actual fun\n FloatArray.sort(): Unit {\n  definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample\n samples.collections.Arrays.Sorting.sortArray\n */\n*\n@library("primitiveArraySort")\npublic actual fun\n CharArray.sort(): Unit {\n  definedExternally\n}\n\n/**\n * Sorts the array in-place according to the natural order\n of its elements.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other\n after sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n */\n\npublic actual fun\n <T : Comparable<T>> Array<out T>.sort(): Unit {\n  if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-\n place according to the order specified by the given [comparison] function.\n * \n * The sort is _stable_. It means that\n equal elements preserve their order relative to each other after sorting.\n */\n\n@Deprecated("Use sortWith instead",\n ReplaceWith("this.sortWith(Comparator(comparison))"))\n@DeprecatedSinceKotlin(warningSince =\n "1.6")\npublic fun <T> Array<out T>.sort(comparison: (a: T, b: T) -> Int): Unit {\n  if (size > 1)\n  sortArrayWith(this, comparison)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * The sort is _stable_. It\n means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the\n start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size\n of this array by default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex]\n is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than\n [toIndex].\n * @sample samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n */\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\n actual fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  sortArrayWith(this, fromIndex, toIndex,\n  naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range\n (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by\n default.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than\n the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\n actual fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  val subarray =\n  this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ByteArray>()\n  subarray.sort()\n}\n\n/**\n * Sorts a\n range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * \n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws\n IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws\n IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample\n samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic\n actual fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  val subarray =\n  this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ShortArray>()\n  subarray.sort()\n}\n\n/**\n * Sorts a\n range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * \n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws\n IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * \n * @throws\n IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample\n */

```

```

samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<IntArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts a
range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArrayWith(this.unsafeCast<Array<Long>>(),
fromIndex, toIndex, naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex
the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort,
size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or
[toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than
[toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<FloatArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts a
range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<DoubleArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts
a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *
@param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample
samples.collections.Arrays.Sorting.sortRangeOfArray\n
*\n@SinceKotlin("1.4")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    val subarray =
this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<CharArray>()\n    subarray.sort()\n}\n\n/**\n * Sorts the
array in-place according to the order specified by the given [comparison] function.\n * \n * @Deprecated("Use other
sorting functions from the Standard Library")\n * \n * @DeprecatedSinceKotlin(warningSince =
"1.6")\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun ByteArray.sort(noinline comparison: (a: Byte, b: Byte) ->
Int): Unit {\n    asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified
by the given [comparison] function.\n * \n * @Deprecated("Use other sorting functions from the Standard
Library")\n * \n * @DeprecatedSinceKotlin(warningSince = "1.6")\n * \n * @kotlin.internal.InlineOnly\n * \n * public inline fun
ShortArray.sort(noinline comparison: (a: Short, b: Short) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given

```

```

[comparison] function.\n *\n@Deprecated(\n"Use other sorting functions from the Standard
Library")\n\n@DeprecatedSinceKotlin(warningSince = `1.6`)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int): Unit {\n  asDynamic().sort(comparison)\n}\n\n/**\n *
Sorts the array in-place according to the order specified by the given [comparison] function.\n
*\n\n@Deprecated(\n"Use other sorting functions from the Standard
Library")\n\n@DeprecatedSinceKotlin(warningSince = `1.6`)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
LongArray.sort(noinline comparison: (a: Long, b: Long) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n *\n\n@Deprecated(\n"Use other sorting functions from the Standard
Library")\n\n@DeprecatedSinceKotlin(warningSince = `1.6`)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
FloatArray.sort(noinline comparison: (a: Float, b: Float) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n *\n\n@Deprecated(\n"Use other sorting functions from the Standard
Library")\n\n@DeprecatedSinceKotlin(warningSince = `1.6`)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
DoubleArray.sort(noinline comparison: (a: Double, b: Double) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparison] function.\n *\n\n@Deprecated(\n"Use other sorting functions from the Standard
Library")\n\n@DeprecatedSinceKotlin(warningSince = `1.6`)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n
asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given
[comparator].\n *\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n *\n\n@public actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit {\n  if
(size > 1) sortArrayWith(this, comparator)\n}\n\n/**\n * Sorts a range in the array in-place with the given
[comparator].\n *\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n *\n *\n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n *\n * @param toIndex
the end of the range (exclusive) to sort, size of this array by default.\n *\n *\n * @throws IndexOutOfBoundsException
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *\n * @throws
IllegalArgumentExcepion if [fromIndex] is greater than [toIndex].\n
*\n\n@SinceKotlin(`1.4`)\n\n@Suppress(\n"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic
actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size):
Unit {\n  AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  sortArrayWith(this, fromIndex, toIndex,
comparator)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n
*\n\n@public actual fun ByteArray.toTypedArray(): Array<Byte> {\n  return js("[]").slice.call(this)\n}\n\n/**\n *
Returns a *typed* object array containing all of the elements of this primitive array.\n *\n\n@public actual fun
ShortArray.toTypedArray(): Array<Short> {\n  return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed*
object array containing all of the elements of this primitive array.\n *\n\n@public actual fun IntArray.toTypedArray():
Array<Int> {\n  return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the
elements of this primitive array.\n *\n\n@public actual fun LongArray.toTypedArray(): Array<Long> {\n  return
js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n *\n\n@public actual fun FloatArray.toTypedArray(): Array<Float> {\n  return
js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n *\n\n@public actual fun DoubleArray.toTypedArray(): Array<Double> {\n  return
js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n *\n\n@public actual fun BooleanArray.toTypedArray(): Array<Boolean> {\n  return
js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive
array.\n *\n\n@public actual fun CharArray.toTypedArray(): Array<Char> {\n  return Array(size) { index ->
this[index] }\n}\n\n", "*/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

```

license/LICENSE.txt file.\n

```
*\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage\nkotlin.comparisons\n\n/**\n * Compares two values using the specified functions [selectors] to calculate the result\n of the comparison.\n * The functions are called sequentially, receive the given values [a] and [b] and return\n [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for [a] and [b] values do\n not\n * compare as equal, the result of that comparison is returned.\n * \n * @sample\n samples.comparisons.Comparisons.compareValuesByWithSelectors\n *\n\npublic fun <T> compareValuesBy(a: T,\n b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n    require(selectors.size > 0)\n    return\n compareValuesByImpl(a, b, selectors)\n}\n\nprivate fun <T> compareValuesByImpl(a: T, b: T, selectors:\n Array<out (T) -> Comparable<*>?): Int {\n    for (fn in selectors) {\n        val v1 = fn(a)\n        val v2 = fn(b)\n        val diff = compareValues(v1, v2)\n        if (diff != 0) return diff\n    }\n    return 0\n}\n\n/**\n * Compares two\n values using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to\n the given values [a] and [b] and return [Comparable] objects.\n * The result of comparison of these [Comparable]\n instances is returned.\n * \n * @sample\n samples.comparisons.Comparisons.compareValuesByWithSingleSelector\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareValuesBy(a: T, b: T, selector: (T) ->\n Comparable<*>?): Int {\n    return compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values\n using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the\n given values [a] and [b] and return objects of type K which are then being\n * compared with the given\n [comparator].\n * \n * @sample\n samples.comparisons.Comparisons.compareValuesByWithComparator\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareValuesBy(a: T, b: T, comparator: Comparator<in\n K>, selector: (T) -> K): Int {\n    return comparator.compare(selector(a), selector(b))\n}\n\n//// Not so useful without\n type inference for receiver of expression\n//// compareValuesWith(v1, v2, compareBy { it.prop1 }\n thenByDescending { it.prop2 })\n\n/**\n * Compares two values using the specified [comparator].\n *\n\n@Suppress("NOTHING_TO_INLINE")\npublic inline fun <T> compareValuesWith(a: T, b: T, comparator:\n Comparator<T>): Int = comparator.compare(a, b)\n\n/**\n * Compares two nullable [Comparable] values. Null\n is considered less than any value.\n * \n * @sample\n samples.comparisons.Comparisons.compareValues\n *\n\npublic\n fun <T : Comparable<*>> compareValues(a: T?, b: T?): Int {\n    if (a === b) return 0\n    if (a == null) return -1\n    if (b == null) return 1\n    @Suppress("UNCHECKED_CAST")\n    return (a as\n Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a comparator using the sequence of functions to calculate a\n result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return\n [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do\n not\n * compare as equal, the result of that comparison is returned from the [Comparator].\n * \n * @sample\n samples.comparisons.Comparisons.compareByWithSelectors\n *\n\npublic fun <T> compareBy(vararg selectors: (T)\n -> Comparable<*>?): Comparator<T> {\n    require(selectors.size > 0)\n    return Comparator { a, b ->\n compareValuesByImpl(a, b, selectors) }\n}\n\n/**\n * Creates a comparator using the function to transform value\n to a [Comparable] instance for comparison.\n * \n * @sample\n samples.comparisons.Comparisons.compareByWithSingleSelector\n *\n\n@kotlin.internal.InlineOnly\npublic inline\n fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n Comparator { a, b ->\n compareValuesBy(a, b, selector) }\n\n/**\n * Creates a comparator using the [selector] function to transform values\n being compared and then applying\n * the specified [comparator] to compare transformed values.\n * \n * @sample\n samples.comparisons.Comparisons.compareByWithComparator\n *\n\n@kotlin.internal.InlineOnly\npublic inline\n fun <T, K> compareBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n Comparator { a, b -> compareValuesBy(a, b, comparator, selector) }\n\n/**\n * Creates a descending comparator\n using the function to transform value to a [Comparable] instance for comparison.\n * \n * @sample\n samples.comparisons.Comparisons.compareByDescendingWithSingleSelector\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareByDescending(crossinline selector: (T) ->\n Comparable<*>?): Comparator<T> =\n Comparator { a, b -> compareValuesBy(b, a, selector) }\n\n/**\n * Creates a descending comparator using the [selector] function to transform values being compared and then
```

applying the specified [comparator] to compare transformed values. Note that an order of [comparator] is reversed by this wrapper.

`samples.comparisons.Comparisons.compareByDescendingWithComparator`

```
*\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareByDescending(comparator: Comparator<in K>,  
crossinline selector: (T) -> K): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(b, a, comparator,  
selector) }\n\n/**\n * Creates a comparator comparing values after the primary comparator defined them equal. It  
uses the function to transform value to a [Comparable] instance for comparison.\n * @sample
```

```
samples.comparisons.Comparisons.thenBy\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>  
Comparator<T>.thenBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n    Comparator { a, b ->  
>\n        val previousCompare = this@thenBy.compare(a, b)\n        if (previousCompare != 0) previousCompare else  
compareValuesBy(a, b, selector)\n    }\n\n/**\n * Creates a comparator comparing values after the primary  
comparator defined them equal. It uses the [selector] function to transform values and then compares them with  
the given [comparator].\n * @sample
```

```
samples.comparisons.Comparisons.thenByWithComparator\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> Comparator<T>.thenBy(comparator: Comparator<in K>,  
crossinline selector: (T) -> K): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare =  
this@thenBy.compare(a, b)\n        if (previousCompare != 0) previousCompare else compareValuesBy(a, b,  
comparator, selector)\n    }\n\n/**\n * Creates a descending comparator using the primary comparator and the  
function to transform value to a [Comparable] instance for comparison.\n * @sample
```

```
samples.comparisons.Comparisons.thenByDescending\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>  
Comparator<T>.thenByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare = this@thenByDescending.compare(a, b)\n        if  
(previousCompare != 0) previousCompare else compareValuesBy(b, a, selector)\n    }\n\n/**\n * Creates a  
descending comparator comparing values after the primary comparator defined them equal. It uses the [selector]  
function to transform values and then compares them with the given [comparator].\n * @sample
```

```
samples.comparisons.Comparisons.thenByDescendingWithComparator\n *\n@kotlin.internal.InlineOnly\npublic  
inline fun <T, K> Comparator<T>.thenByDescending(comparator: Comparator<in K>, crossinline selector: (T) ->  
K): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare = this@thenByDescending.compare(a,  
b)\n        if (previousCompare != 0) previousCompare else compareValuesBy(b, a, comparator, selector)\n    }\n\n/**\n * Creates a comparator using the primary comparator and function to calculate a result of comparison.\n * @sample
```

```
samples.comparisons.Comparisons.thenComparator\n *\n@kotlin.internal.InlineOnly\npublic inline  
fun <T> Comparator<T>.thenComparator(crossinline comparison: (a: T, b: T) -> Int): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare = this@thenComparator.compare(a, b)\n        if (previousCompare  
!= 0) previousCompare else comparison(a, b)\n    }\n\n/**\n * Combines this comparator and the given [comparator]  
such that the latter is applied only when the former considered values equal.\n * @sample
```

```
samples.comparisons.Comparisons.then\n *\npublic infix fun <T> Comparator<T>.then(comparator:  
Comparator<in T>): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare =  
this@then.compare(a, b)\n        if (previousCompare != 0) previousCompare else comparator.compare(a, b)\n    }\n\n/**\n * Combines this comparator and the given [comparator] such that the latter is applied only when the  
former considered values equal.\n * @sample
```

```
samples.comparisons.Comparisons.thenDescending\n *\npublic  
infix fun <T> Comparator<T>.thenDescending(comparator: Comparator<in T>): Comparator<T> =\n    Comparator<T> { a, b ->\n        val previousCompare = this@thenDescending.compare(a, b)\n        if  
(previousCompare != 0) previousCompare else comparator.compare(b, a)\n    }\n\n// Not so useful without type  
inference for receiver of expression\n\n/**\n * Extends the given [comparator] of non-nullable values to a comparator  
of nullable values considering `null` value less than any other value.\n * @sample
```

```
samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\npublic fun <T : Any>  
nullsFirst(comparator: Comparator<in T>): Comparator<T?> =\n    Comparator { a, b ->\n        when {\n            a  
=== b -> 0\n            a == null -> -1\n            b == null -> 1\n            else -> comparator.compare(a, b)\n        }\n    }\n\n/**\n * Provides a comparator of nullable [Comparable] values considering `null` value less than any other
```

```

value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsFirst(): Comparator<T?> =
nullsFirst(naturalOrder())\n\n/**\n * Extends the given [comparator] of non-nullable values to a comparator of
nullable values\n * considering `null` value greater than any other value.\n *\n * @sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\npublic fun <T : Any>
nullsLast(comparator: Comparator<in T>): Comparator<T?> =\n    Comparator { a, b ->\n        when {\n            a
=== b -> 0\n            a == null -> 1\n            b == null -> -1\n            else -> comparator.compare(a, b)\n        }\n    }\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value greater than any
other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> =
nullsLast(naturalOrder())\n\n/**\n * Returns a comparator that compares [Comparable] objects in natural order.\n
*\n * @sample samples.comparisons.Comparisons.naturalOrderComparator\n *\npublic fun <T : Comparable<T>>
naturalOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as
Comparator<T>)\n\n/**\n * Returns a comparator that compares [Comparable] objects in reversed natural order.\n
*\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n *\npublic fun <T :
Comparable<T>> reverseOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST")
(ReverseOrderComparator as Comparator<T>)\n\n/**\n * Returns a comparator that imposes the reverse ordering
of this comparator.\n *\n * @sample samples.comparisons.Comparisons.reversed\n
*\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\npublic fun <T> Comparator<T>.reversed():
Comparator<T> = when (this) {\n    is ReversedComparator -> this.comparator\n    NaturalOrderComparator ->
@Suppress("UNCHECKED_CAST") (ReverseOrderComparator as Comparator<T>)\n
ReverseOrderComparator -> @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as
Comparator<T>)\n    else -> ReversedComparator(this)\n}\n\nprivate class ReversedComparator<T>(public val
comparator: Comparator<T>) : Comparator<T> {\n    override fun compare(a: T, b: T): Int = comparator.compare(b,
a)\n    @Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<T> =
comparator\n}\n\nprivate object NaturalOrderComparator : Comparator<Comparable<Any>> {\n    override fun
compare(a: Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)\n
@Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<Comparable<Any>> =
ReverseOrderComparator\n}\n\nprivate object ReverseOrderComparator : Comparator<Comparable<Any>> {\n
override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)\n
@Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<Comparable<Any>> =
NaturalOrderComparator\n}\n\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StandardKt")\npackage kotlin\n\nimport
kotlin.contracts.*\n\n/**\n * An exception is thrown to indicate that a method body remains to be implemented.\n
*\n * @public class NotImplementedError(message: String = "An operation is not implemented.") :
Error(message)\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n
*\n * @n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(): Nothing = throw NotImplementedError()\n\n/**\n *
Always throws [NotImplementedError] stating that operation is not implemented.\n *\n * @param reason a string
explaining why the implementation is missing.\n *\n@kotlin.internal.InlineOnly\npublic inline fun TODO(reason:
String): Nothing = throw NotImplementedError("An operation is not implemented: $reason")\n\n/**\n * Calls
the specified function [block] and returns its result.\n *\n * For detailed usage information see the documentation for
[scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <R> run(block: () -> R): R {\n    contract {\n
callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n/**\n * Calls the specified
function [block] with `this` value as its receiver and returns its result.\n *\n * For detailed usage information see the
documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n

```

```

*@\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return block()\n}\n\n/**\n * Calls the specified function [block] with the given [receiver] as its receiver and returns its result.\n * \n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#with).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return receiver.block()\n}\n\n/**\n * Calls the specified function [block] with `this` value as its receiver and returns `this` value.\n * \n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#apply).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  block()\n  return this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns `this` value.\n * \n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#also).\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.also(block: (T) -> Unit): T {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  block(this)\n  return this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns its result.\n * \n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#let).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.let(block: (T) -> R): R {\n  contract {\n    callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n  }\n  return block(this)\n}\n\n/**\n * Returns `this` value if it satisfies the given [predicate] or `null`, if it doesn't.\n * \n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-takeunless).\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.takeIf(predicate: (T) -> Boolean): T? {\n  contract {\n    callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n  }\n  return if (predicate(this)) this else null\n}\n\n/**\n * Returns `this` value if it _does not_ satisfy the given [predicate] or `null`, if it does.\n * \n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#takeif-and-takeunless).\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.takeUnless(predicate: (T) -> Boolean): T? {\n  contract {\n    callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n  }\n  return if (!predicate(this)) this else null\n}\n\n/**\n * Executes the given function [action] specified number of [times].\n * \n * A zero-based index of current iteration is passed as a parameter to [action].\n * \n * @sample samples.misc.ControlFlow.repeat\n */\n@kotlin.internal.InlineOnly\npublic inline fun repeat(times: Int, action: (Int) -> Unit) {\n  contract { callsInPlace(action) }\n  for (index in 0 until times) {\n    action(index)\n  }\n}\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@npackage kotlin.comparisons\n\n/\n\nNOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n\nSee: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\n\n/**\n * Returns the greater of two values.\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T): T {\n  return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Byte, b: Byte): Byte {\n  return maxOf(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Short, b: Short): Short {\n  return maxOf(a.toInt(), b.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Int, b: Int): Int {\n  return JsMath.max(a, b)\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun maxOf(a: Long, b: Long): Long {\n  return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n * \n * If either value

```



is `NaN`, returns `NaN`.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun  
maxOf(a: Float, b: Float): Float {  
return JsMath.max(a, b)  
}`  
Returns the greater of two values.  
\* If either value is `NaN`, returns `NaN`.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual  
inline fun maxOf(a: Double, b: Double): Double {  
return JsMath.max(a, b)  
}`  
Returns the greater of  
three values.  
\* If there are multiple equal maximal values, returns the first of them.  
`@SinceKotlin("1.1")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T, c: T): T {  
return  
maxOf(a, maxOf(b, c))  
}`  
Returns the greater of three values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Byte, b: Byte, c: Byte):  
Byte {  
return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()  
}`  
Returns the greater of  
three values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Short, b:  
Short, c: Short): Short {  
return JsMath.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()  
}`  
Returns the greater of three values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline  
fun maxOf(a: Int, b: Int, c: Int): Int {  
return JsMath.max(a, b, c)  
}`  
Returns the greater of three  
values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Long, b: Long,  
c: Long): Long {  
return maxOf(a, maxOf(b, c))  
}`  
Returns the greater of three values.  
\* If any  
value is `NaN`, returns `NaN`.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun  
maxOf(a: Float, b: Float, c: Float): Float {  
return JsMath.max(a, b, c)  
}`  
Returns the greater of three  
values.  
\* If any value is `NaN`, returns `NaN`.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Double, b: Double, c:  
Double): Double {  
return JsMath.max(a, b, c)  
}`  
Returns the greater of the given values.  
\* If  
there are multiple equal maximal values, returns the first of them.  
`@SinceKotlin("1.4")\npublic actual fun <T  
: Comparable<T>> maxOf(a: T, vararg other: T): T {  
var max = a  
for (e in other) max = maxOf(max, e)  
return max  
}`  
Returns the greater of the given values.  
`@SinceKotlin("1.4")\npublic actual fun  
maxOf(a: Byte, vararg other: Byte): Byte {  
var max = a  
for (e in other) max = maxOf(max, e)  
return  
max  
}`  
Returns the greater of the given values.  
`@SinceKotlin("1.4")\npublic actual fun maxOf(a:  
Short, vararg other: Short): Short {  
var max = a  
for (e in other) max = maxOf(max, e)  
return  
max  
}`  
Returns the greater of the given values.  
`@SinceKotlin("1.4")\npublic actual fun maxOf(a:  
Int, vararg other: Int): Int {  
var max = a  
for (e in other) max = maxOf(max, e)  
return max  
}`  
Returns the greater of the given values.  
`@SinceKotlin("1.4")\npublic actual fun maxOf(a: Long, vararg  
other: Long): Long {  
var max = a  
for (e in other) max = maxOf(max, e)  
return max  
}`  
Returns the greater of the given values.  
\* If any value is `NaN`, returns `NaN`.  
`@SinceKotlin("1.4")\npublic actual fun maxOf(a: Float, vararg other: Float): Float {  
var max = a  
for (e  
in other) max = maxOf(max, e)  
return max  
}`  
Returns the greater of the given values.  
\* If any  
value is `NaN`, returns `NaN`.  
`@SinceKotlin("1.4")\npublic actual fun maxOf(a: Double, vararg other:  
Double): Double {  
var max = a  
for (e in other) max = maxOf(max, e)  
return max  
}`  
Returns  
the smaller of two values.  
\* If values are equal, returns the first one.  
`@SinceKotlin("1.1")\npublic  
actual fun <T : Comparable<T>> minOf(a: T, b: T): T {  
return if (a <= b) a else b  
}`  
Returns the  
smaller of two values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a:  
Byte, b: Byte): Byte {  
return minOf(a.toInt(), b.toInt()).unsafeCast<Byte>()  
}`  
Returns the smaller of  
two values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Short, b:  
Short): Short {  
return minOf(a.toInt(), b.toInt()).unsafeCast<Short>()  
}`  
Returns the smaller of two  
values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Int, b: Int): Int  
{  
return JsMath.min(a, b)  
}`  
Returns the smaller of two values.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Long, b:  
Long): Long {  
return if (a <= b) a else b  
}`  
Returns the smaller of two values.  
\* If either value  
is `NaN`, returns `NaN`.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual inline fun  
minOf(a: Float, b: Float): Float {  
return JsMath.min(a, b)  
}`  
Returns the smaller of two values.  
\* If  
either value is `NaN`, returns `NaN`.  
`@SinceKotlin("1.1")@kotlin.internal.InlineOnly\npublic actual`

```

inline fun minOf(a: Double, b: Double): Double {
    return JsMath.min(a, b)
}

/** Returns the smaller of three values.
 * If there are multiple equal minimal values, returns the first of them.
 */
@SinceKotlin("1.1")
public actual fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {
    return minOf(a, minOf(b, c))
}

/** Returns the smaller of three values.
 */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Byte, b: Byte, c: Byte): Byte {
    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()
}

/** Returns the smaller of three values.
 */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Short, b: Short, c: Short): Short {
    return JsMath.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()
}

/** Returns the smaller of three values.
 */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Int, b: Int, c: Int): Int {
    return JsMath.min(a, b, c)
}

/** Returns the smaller of three values.
 */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Long, b: Long, c: Long): Long {
    return minOf(a, minOf(b, c))
}

/** Returns the smaller of three values.
 * If any value is NaN, returns NaN.
 */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Float, b: Float, c: Float): Float {
    return JsMath.min(a, b, c)
}

/** Returns the smaller of three values.
 * If any value is NaN, returns NaN.
 */
@SinceKotlin("1.1")
@kotlin.internal.InlineOnly
public actual inline fun minOf(a: Double, b: Double, c: Double): Double {
    return JsMath.min(a, b, c)
}

/** Returns the smaller of the given values.
 * If there are multiple equal minimal values, returns the first of them.
 */
@SinceKotlin("1.4")
public actual fun <T : Comparable<T>> minOf(a: T, vararg other: T): T {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Byte, vararg other: Byte): Byte {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Short, vararg other: Short): Short {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Int, vararg other: Int): Int {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 * If any value is NaN, returns NaN.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Long, vararg other: Long): Long {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 * If any value is NaN, returns NaN.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Float, vararg other: Float): Float {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Returns the smaller of the given values.
 * If any value is NaN, returns NaN.
 */
@SinceKotlin("1.4")
public actual fun minOf(a: Double, vararg other: Double): Double {
    var min = a
    for (e in other) min = minOf(min, e)
    return min
}

/** Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
 */
@n/Auto-generated file. DO NOT EDIT!
package kotlin
nimport kotlin.experimental.*
nimport kotlin.jvm.*
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
@JvmInline
public value class ULong @PublishedApi internal constructor(@PublishedApi internal val data: Long) : Comparable<ULong> {
    companion object {
        /** A constant holding the minimum value an instance of ULong can have.
         */
        public const val MIN_VALUE: ULong = ULong(0)
        /** A constant holding the maximum value an instance of ULong can have.
         */
        public const val MAX_VALUE: ULong = ULong(-1)
        /** The number of bytes used to represent an instance of ULong in a binary form.
         */
        public const val SIZE_BYTES: Int = 8
        /** The number of bits used to represent an instance of ULong in a binary form.
         */
        public const val SIZE_BITS: Int = 64
    }
    /** Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UByte): Int = this.compareTo(other.toULong())
    /** Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a

```

```

positive number if it's greater than other.\n    *\n    @kotlin.internal.InlineOnly\n    public inline operator fun
compareTo(other: UShort): Int = this.compareTo(other.toULong())\n\n    /**\n     * Compares this value with the
specified value for order.\n     * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n     * or a positive number if it's greater than other.\n     *\n    @kotlin.internal.InlineOnly\n    public inline operator fun compareTo(other: UInt): Int = this.compareTo(other.toULong())\n\n    /**\n     *
Compares this value with the specified value for order.\n     * Returns zero if this value is equal to the specified other
value, a negative number if it's less than other,\n     * or a positive number if it's greater than other.\n     *\n    @kotlin.internal.InlineOnly\n    @Suppress(\"OVERRIDE_BY_INLINE\")\n    public override inline operator fun
compareTo(other: ULong): Int = ulongCompare(this.data, other.data)\n\n    /** Adds the other value to this value.
*\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UByte): ULong =
this.plus(other.toULong())\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public
inline operator fun plus(other: UShort): ULong = this.plus(other.toULong())\n\n    /** Adds the other value to this
value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun plus(other: UInt): ULong =
this.plus(other.toULong())\n\n    /** Adds the other value to this value. *\n    @kotlin.internal.InlineOnly\n    public
inline operator fun plus(other: ULong): ULong = ULong(this.data.plus(other.data))\n\n    /** Subtracts the other
value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UByte): ULong
= this.minus(other.toULong())\n\n    /** Subtracts the other value from this value. *\n    @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())\n\n    /** Subtracts the other
value from this value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun minus(other: UInt): ULong =
this.minus(other.toULong())\n\n    /** Subtracts the other value from this value. *\n    @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))\n\n    /** Multiplies
this value by the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: UByte):
ULong = this.times(other.toULong())\n\n    /** Multiplies this value by the other value. *\n    @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UShort): ULong =
this.times(other.toULong())\n\n    /** Multiplies this value by the other value. *\n    @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UInt): ULong = this.times(other.toULong())\n\n    /** Multiplies this value by
the other value. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun times(other: ULong): ULong =
ULong(this.data.times(other.data))\n\n    /** Divides this value by the other value, truncating the result to an integer
that is closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UByte): ULong =
this.div(other.toULong())\n\n    /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UShort): ULong =
this.div(other.toULong())\n\n    /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: UInt): ULong =
this.div(other.toULong())\n\n    /** Divides this value by the other value, truncating the result to an integer that is
closer to zero. *\n    @kotlin.internal.InlineOnly\n    public inline operator fun div(other: ULong): ULong =
ulongDivide(this, other)\n\n    /**\n     * Calculates the remainder of truncating division of this value by the other
value.\n     * \n     * The result is always less than the divisor.\n     *\n    @kotlin.internal.InlineOnly\n    public
inline operator fun rem(other: UByte): ULong = this.rem(other.toULong())\n\n    /**\n     * Calculates the remainder
of truncating division of this value by the other value.\n     * \n     * The result is always less than the divisor.\n     *\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: UShort): ULong =
this.rem(other.toULong())\n\n    /**\n     * Calculates the remainder of truncating division of this value by the other
value.\n     * \n     * The result is always less than the divisor.\n     *\n    @kotlin.internal.InlineOnly\n    public
inline operator fun rem(other: UInt): ULong = this.rem(other.toULong())\n\n    /**\n     * Calculates the remainder of
truncating division of this value by the other value.\n     * \n     * The result is always less than the divisor.\n     *\n    @kotlin.internal.InlineOnly\n    public inline operator fun rem(other: ULong): ULong = ulongRemainder(this,
other)\n\n    /**\n     * Divides this value by the other value, flooring the result to an integer that is closer to negative
infinity.\n     * \n     * For unsigned types, the results of flooring division and truncating division are the same.\n     *\n    @kotlin.internal.InlineOnly\n    public inline fun floorDiv(other: UByte): ULong =

```

```

this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating
division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UShort): ULong =
this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating
division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: UInt): ULong =
this.floorDiv(other.toULong())\n /**\n * Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity.\n * \n * For unsigned types, the results of flooring division and truncating
division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun floorDiv(other: ULong): ULong =
div(other)\n\n /**\n * Calculates the remainder of flooring division of this value by the other value.\n * \n *
The result is always less than the divisor.\n * \n * For unsigned types, the remainders of flooring division and
truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline fun mod(other: UByte):
UByte = this.mod(other.toULong()).toUByte()\n /**\n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the
remainders of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n
public inline fun mod(other: UShort): UShort = this.mod(other.toULong()).toUShort()\n /**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is always less than the
divisor.\n * \n * For unsigned types, the remainders of flooring division and truncating division are the same.\n
*\n @kotlin.internal.InlineOnly\n public inline fun mod(other: UInt): UInt =
this.mod(other.toULong()).toUInt()\n /**\n * Calculates the remainder of flooring division of this value by the
other value.\n * \n * The result is always less than the divisor.\n * \n * For unsigned types, the remainders
of flooring division and truncating division are the same.\n * \n @kotlin.internal.InlineOnly\n public inline
fun mod(other: ULong): ULong = rem(other)\n\n /**\n * Returns this value incremented by one.\n * \n *
@sample samples.misc.Builtins.inc\n * \n @kotlin.internal.InlineOnly\n public inline operator fun inc():
ULong = ULong(data.inc())\n\n /**\n * Returns this value decremented by one.\n * \n * @sample
samples.misc.Builtins.dec\n * \n @kotlin.internal.InlineOnly\n public inline operator fun dec(): ULong =
ULong(data.dec())\n\n /**\n * Creates a range from this value to the specified [other] value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: ULong): ULongRange =
ULongRange(this, other)\n\n /**\n * Shifts this value left by the [bitCount] number of bits.\n * \n * Note
that only the six lowest-order bits of the [bitCount] are used as the shift distance.\n * \n * The shift distance
actually used is therefore always in the range `0..63`.\n * \n @kotlin.internal.InlineOnly\n public inline infix fun
shl(bitCount: Int): ULong = ULong(data shl bitCount)\n\n /**\n * Shifts this value right by the [bitCount]
number of bits, filling the leftmost bits with zeros.\n * \n * Note that only the six lowest-order bits of the
[bitCount] are used as the shift distance.\n * \n * The shift distance actually used is therefore always in the
range `0..63`.\n * \n @kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): ULong = ULong(data
ushr bitCount)\n\n /**\n * Performs a bitwise AND operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun and(other: ULong): ULong = ULong(this.data and
other.data)\n\n /**\n * Performs a bitwise OR operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun or(other: ULong): ULong = ULong(this.data or other.data)\n
/**\n * Performs a bitwise XOR operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun xor(other: ULong):
ULong = ULong(this.data xor other.data)\n\n /**\n * Inverts the bits in this value. *\n
@kotlin.internal.InlineOnly\n public inline fun inv(): ULong = ULong(data.inv())\n\n /**\n * Converts this [ULong] value to [Byte].\n * \n
* If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same
numerical value as this `ULong`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits
of this `ULong` value.\n * \n * Note that the resulting `Byte` value may be negative.\n * \n
@kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n\n /**\n * Converts this [ULong]
value to [Short].\n * \n * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents\n * the same numerical value as this `ULong`.\n * \n * The resulting `Short` value is represented

```

```

by the least significant 16 bits of this `ULong` value.\n
 * Note that the resulting `Short` value may be negative.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toShort(): Short = data.toShort()\n
/**\n
 * Converts this [ULong] value to [Int].\n
 * \n
 * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int` value represents\n
 * the same numerical value as this `ULong`.\n
 * \n
 * The resulting `Int` value is represented by the least significant 32 bits of this `ULong` value.\n
 * Note that the resulting `Int` value may be negative.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toInt(): Int = data.toInt()\n
/**\n
 * Converts this [ULong] value to [Long].\n
 * \n
 * If this value is less than or equals to [Long.MAX_VALUE], the resulting `Long` value represents\n
 * the same numerical value as this `ULong`. Otherwise the result is negative.\n
 * \n
 * The resulting `Long` value has the same binary representation as this `ULong` value.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toLong(): Long = data\n
/**\n
 * Converts this [ULong] value to [UByte].\n
 * \n
 * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n
 * the same numerical value as this `ULong`.\n
 * \n
 * The resulting `UByte` value is represented by the least significant 8 bits of this `ULong` value.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toUByte(): UByte = data.toUByte()\n
/**\n
 * Converts this [ULong] value to [UShort].\n
 * \n
 * If this value is less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n
 * the same numerical value as this `ULong`.\n
 * \n
 * The resulting `UShort` value is represented by the least significant 16 bits of this `ULong` value.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toUShort(): UShort = data.toUShort()\n
/**\n
 * Converts this [ULong] value to [UInt].\n
 * \n
 * If this value is less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n
 * the same numerical value as this `ULong`.\n
 * \n
 * The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toUInt(): UInt = data.toUInt()\n
/** Returns this value. */\n
@kotlin.internal.InlineOnly\n
public inline fun toULong(): ULong = this\n
/**\n
 * Converts this [ULong] value to [Float].\n
 * \n
 * The resulting value is the closest `Float` to this `ULong` value.\n
 * In case when this `ULong` value is exactly between two `Float`s,\n
 * the one with zero at least significant bit of mantissa is selected.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toFloat(): Float = this.toDouble().toFloat()\n
/**\n
 * Converts this [ULong] value to [Double].\n
 * \n
 * The resulting value is the closest `Double` to this `ULong` value.\n
 * In case when this `ULong` value is exactly between two `Double`s,\n
 * the one with zero at least significant bit of mantissa is selected.\n
 */\n
@kotlin.internal.InlineOnly\n
public inline fun toDouble(): Double = ulongToDouble(data)\n
\n
public override fun toString(): String = ulongToString(data)\n
\n
}/**\n
 * Converts this [Byte] value to [ULong].\n
 * \n
 * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Byte`.\n
 * \n
 * The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `Byte` value,\n
 * whereas the most significant 56 bits are filled with the sign bit of this value.\n
 */\n
@SinceKotlin("1.5")\n
@WasExperimental(ExperimentalUnsignedTypes::class)\n
@kotlin.internal.InlineOnly\n
public inline fun Byte.toULong(): ULong = ULong(this.toLong())\n
/**\n
 * Converts this [Short] value to [ULong].\n
 * \n
 * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Short`.\n
 * \n
 * The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short` value,\n
 * whereas the most significant 48 bits are filled with the sign bit of this value.\n
 */\n
@SinceKotlin("1.5")\n
@WasExperimental(ExperimentalUnsignedTypes::class)\n
@kotlin.internal.InlineOnly\n
public inline fun Short.toULong(): ULong = ULong(this.toLong())\n
/**\n
 * Converts this [Int] value to [ULong].\n
 * \n
 * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.\n
 * \n
 * The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value,\n
 * whereas the most significant 32 bits are filled with the sign bit of this value.\n
 */\n
@SinceKotlin("1.5")\n
@WasExperimental(ExperimentalUnsignedTypes::class)\n
@kotlin.internal.InlineOnly\n
public inline fun Int.toULong(): ULong = ULong(this.toLong())\n
/**\n
 * Converts this [Long] value to [ULong].\n
 * \n
 * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.\n
 * \n
 * The resulting `ULong` value has the same binary representation as this `Long` value.\n
 */\n
@SinceKotlin("1.5")\n
@WasExperimental(ExperimentalUnsignedTypes::class)\n
@kotlin.internal.InlineOnly\n
public inline fun Long.toULong(): ULong = ULong(this)\n
\n
/**\n
 * Converts this [Float] value to [ULong].\n
 * \n
 * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Float`.\n
 * \n
 * The resulting `ULong` value has the same binary representation as this `Float` value.\n
 */\n
@SinceKotlin("1.5")\n
@WasExperimental(ExperimentalUnsignedTypes::class)\n
@kotlin.internal.InlineOnly\n
public inline fun Float.toULong(): ULong = ULong(this.toLong())\n
\n
/**\n
 * Converts this [Double] value to [ULong].\n
 * \n
 * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Double`.\n
 * \n
 * The resulting `ULong` value has the same binary representation as this `Double` value.\n
 */\n
@SinceKotlin("1.5")\n
@WasExperimental(ExperimentalUnsignedTypes::class)\n
@kotlin.internal.InlineOnly\n
public inline fun Double.toULong(): ULong = ULong(this.toLong())\n
\n
}

```

The fractional part, if any, is rounded down towards zero.  
 \* Returns zero if this `Float` value is negative or `NaN`, [ULong.MAX\_VALUE] if it's bigger than `ULong.MAX\_VALUE`.

```

*\/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly
npublic inline fun Float.toULong(): ULong = doubleToULong(this.toDouble())
n**
n * Converts this [Double]
value to [ULong].
n *
n * The fractional part, if any, is rounded down towards zero.
n * Returns zero if this
`Double` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.
n
*\/@SinceKotlin("1.5")@WasExperimental(ExperimentalUnsignedTypes::class)@kotlin.internal.InlineOnly
npublic inline fun Double.toULong(): ULong = doubleToULong(this)
n", "/"
n * Copyright 2010-2021 JetBrains
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license that can be found in the license/LICENSE.txt file.
n
*\/@file:kotlin.jvm.JvmMultifileClass@file:kotlin.jvm.JvmName("CollectionsKt")@package
kotlin.collections
n\n\/ NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
n\/ See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
n\nimport kotlin.random.*
nimport
kotlin.ranges.contains
nimport kotlin.ranges.reversed
n\n**
n * Returns 1st *element* from the list.
n *
n *
Throws an [IndexOutOfBoundsException] if the size of this list is less than 1.
n
*\/@kotlin.internal.InlineOnly
npublic inline operator fun <T> List<T>.component1(): T {
n return
get(0)
n}
n**
n * Returns 2nd *element* from the list.
n *
n * Throws an [IndexOutOfBoundsException] if the
size of this list is less than 2.
n *\/@kotlin.internal.InlineOnly
npublic inline operator fun <T>
List<T>.component2(): T {
n return get(1)
n}
n**
n * Returns 3rd *element* from the list.
n *
n * Throws an
[IndexOutOfBoundsException] if the size of this list is less than 3.
n *\/@kotlin.internal.InlineOnly
npublic inline
operator fun <T> List<T>.component3(): T {
n return get(2)
n}
n**
n * Returns 4th *element* from the list.
n
n *
Throws an [IndexOutOfBoundsException] if the size of this list is less than 4.
n
*\/@kotlin.internal.InlineOnly
npublic inline operator fun <T> List<T>.component4(): T {
n return
get(3)
n}
n**
n * Returns 5th *element* from the list.
n *
n * Throws an [IndexOutOfBoundsException] if the
size of this list is less than 5.
n *\/@kotlin.internal.InlineOnly
npublic inline operator fun <T>
List<T>.component5(): T {
n return get(4)
n}
n**
n * Returns `true` if [element] is found in the collection.
n
*\/
npublic operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains(element: T): Boolean {
n if
(this is Collection)
n return contains(element)
n return indexOf(element) >= 0
n}
n**
n * Returns an
element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this
collection.
n *
n * @sample samples.collections.Collections.Elements.elementAt
n *\/
npublic fun <T>
Iterable<T>.elementAt(index: Int): T {
n if (this is List)
n return get(index)
n return
elementAtOrElse(index) { throw IndexOutOfBoundsException("Collection doesn't contain element at index
$index.") }
n}
n**
n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if
the [index] is out of bounds of this list.
n *
n * @sample samples.collections.Collections.Elements.elementAt
n *\/@kotlin.internal.InlineOnly
npublic inline fun <T> List<T>.elementAt(index: Int): T {
n return
get(index)
n}
n**
n * Returns an element at the given [index] or the result of calling the [defaultValue] function
if the [index] is out of bounds of this collection.
n *
n * @sample
samples.collections.Collections.Elements.elementAtOrElse
n *\/
npublic fun <T>
Iterable<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {
n if (this is List)
n return
this.getOrElse(index, defaultValue)
n if (index < 0)
n return defaultValue(index)
n val iterator = iterator()
n var count = 0
n while (iterator.hasNext()) {
n val element = iterator.next()
n if (index == count++)
n return element
n }
n return defaultValue(index)
n}
n**
n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this list.
n *
n * @sample
samples.collections.Collections.Elements.elementAtOrElse
n *\/@kotlin.internal.InlineOnly
npublic inline fun
<T> List<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {
n return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)
n}
n**
n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this collection.
n *
n * @sample
samples.collections.Collections.Elements.elementAtOrNull
n *\/
npublic fun <T>

```

```

Iterable<T>.elementAtOrNull(index: Int): T? {\n  if (this is List)\n    return this.getOrNull(index)\n  if (index < 0)\n    return null\n  val iterator = iterator()\n  var count = 0\n  while (iterator.hasNext()) {\n    val element = iterator.next()\n    if (index == count++)\n      return element\n  }\n  return null\n}\n\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAtOrNull(index: Int): T? {\n  return this.getOrNull(index)\n}\n\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.find(predicate: (T) -> Boolean): T? {\n  return firstOrNull(predicate)\n}\n\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.findLast(predicate: (T) -> Boolean): T? {\n  return lastOrNull(predicate)\n}\n\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.findLast(predicate: (T) -> Boolean): T? {\n  return lastOrNull(predicate)\n}\n\n * Returns first element.\n * @throws [NoSuchElementException] if the collection is empty.\n * \n @public fun <T> Iterable<T>.first(): T {\n  when (this) {\n    is List -> return this.first()\n    else -> {\n      val iterator = iterator()\n      if (!iterator.hasNext())\n        throw NoSuchElementException("Collection is empty.")\n      return iterator.next()\n    }\n  }\n}\n\n * Returns first element.\n * @throws [NoSuchElementException] if the list is empty.\n * \n @public fun <T> List<T>.first(): T {\n  if (isEmpty())\n    throw NoSuchElementException("List is empty.")\n  return this[0]\n}\n\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n * \n @public inline fun <T> Iterable<T>.first(predicate: (T) -> Boolean): T {\n  for (element in this) if (predicate(element)) return element\n  throw NoSuchElementException("Collection contains no element matching the predicate.")\n}\n\n * Returns the first non-null value produced by [transform] function being applied to elements of this collection in iteration order,\n * or throws [NoSuchElementException] if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n * \n @SinceKotlin("1.5")\n @kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Iterable<T>.firstNotNullOf(transform: (T) -> R?): R {\n  return firstNotNullOfOrNull(transform) ?: throw NoSuchElementException("No element of the collection was transformed to a non-null value.")\n}\n\n * Returns the first non-null value produced by [transform] function being applied to elements of this collection in iteration order,\n * or `null` if no non-null value was produced.\n * \n * @sample samples.collections.Collections.Transformations.firstNotNullOf\n * \n @SinceKotlin("1.5")\n @kotlin.internal.InlineOnly\npublic inline fun <T, R : Any> Iterable<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? {\n  for (element in this) {\n    val result = transform(element)\n    if (result != null)\n      return result\n  }\n  return null\n}\n\n * Returns the first element, or `null` if the collection is empty.\n * \n @public fun <T> Iterable<T>.firstOrNull(): T? {\n  when (this) {\n    is List -> {\n      if (isEmpty())\n        return null\n      else\n        return this[0]\n    }\n    else -> {\n      val iterator = iterator()\n      if (!iterator.hasNext())\n        return null\n      return iterator.next()\n    }\n  }\n}\n\n * Returns the first element, or `null` if the list is empty.\n * \n @public fun <T> List<T>.firstOrNull(): T? {\n  return if (isEmpty()) null else this[0]\n}\n\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n * \n @public inline fun <T> Iterable<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n * \n @kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n
```

```

*^/npublic fun <T> List<T>.getOrNull(index: Int): T? {^/n    return if (index >= 0 && index <= lastIndex) get(index)
else null^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/n^/
* Returns first index of [element], or -1 if the collection does not contain element.^/n^/n^/n^/
*^/npublic
fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T): Int {^/n    if (this is List) return
this.indexOf(element)^/n    var index = 0^/n    for (item in this) {^/n        checkIndexOverflow(index)^/n        if (element
== item)^/n            return index^/n            index++^/n    }^/n    return -1^/n^/n^/n^/n^/n^/n^/
* Returns first index of [element], or -1
if the list does not contain element.^/n^/n^/
*^/n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false
warning, extension takes precedence in some cases^/npublic fun <@kotlin.internal.OnlyInputTypes T>
List<T>.indexOf(element: T): Int {^/n    return indexOf(element)^/n^/n^/n^/
* Returns index of the first element
matching the given [predicate], or -1 if the collection does not contain such element.^/n^/
*^/npublic inline fun <T>
Iterable<T>.indexOfFirst(predicate: (T) -> Boolean): Int {^/n    var index = 0^/n    for (item in this) {^/n
checkIndexOverflow(index)^/n    if (predicate(item))^/n        return index^/n        index++^/n    }^/n    return -
1^/n^/n^/n^/
* Returns index of the first element matching the given [predicate], or -1 if the list does not contain
such element.^/n^/
*^/npublic inline fun <T> List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {^/n    var index = 0^/n
for (item in this) {^/n    if (predicate(item))^/n        return index^/n        index++^/n    }^/n    return -1^/n^/n^/
* Returns index of the last element matching the given [predicate], or -1 if the collection does not contain such
element.^/n^/
*^/npublic inline fun <T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {^/n    var lastIndex = -
1^/n    var index = 0^/n    for (item in this) {^/n        checkIndexOverflow(index)^/n        if (predicate(item))^/n
lastIndex = index^/n        index++^/n    }^/n    return lastIndex^/n^/n^/
* Returns index of the last element matching
the given [predicate], or -1 if the list does not contain such element.^/n^/
*^/npublic inline fun <T>
List<T>.indexOfLast(predicate: (T) -> Boolean): Int {^/n    val iterator = this.listIterator(size)^/n    while
(iterator.hasPrevious()) {^/n        if (predicate(iterator.previous())) {^/n            return iterator.nextIndex()^/n        }^/n
}^/n    return -1^/n^/n^/
* Returns the last element.^/n^/
* @throws NoSuchElementException if the collection
is empty.^/n^/
* @sample samples.collections.Collections.Elements.last^/n^/
*^/npublic fun <T> Iterable<T>.last(): T
{^/n    when (this) {^/n        is List -> return this.last()^/n        else -> {^/n            val iterator = iterator()^/n            if
(!iterator.hasNext())^/n                throw NoSuchElementException("Collection is empty.")^/n            var last =
iterator.next()^/n            while (iterator.hasNext())^/n                last = iterator.next()^/n            return last^/n        }^/n
}^/n^/n^/
* Returns the last element.^/n^/
* @throws NoSuchElementException if the list is empty.^/n^/
* @sample samples.collections.Collections.Elements.last^/n^/
*^/npublic fun <T> List<T>.last(): T {^/n    if (isEmpty())^/n
throw NoSuchElementException("List is empty.")^/n    return this[lastIndex]^/n^/n^/
* Returns the last
element matching the given [predicate].^/n^/
* @throws NoSuchElementException if no such element is found.^/n
^/
* @sample samples.collections.Collections.Elements.last^/n^/
*^/npublic inline fun <T>
Iterable<T>.last(predicate: (T) -> Boolean): T {^/n    var last: T? = null^/n    var found = false^/n    for (element in this)
{^/n        if (predicate(element)) {^/n            last = element^/n            found = true^/n        }^/n    }^/n    if (!found) throw
NoSuchElementException("Collection contains no element matching the predicate.")^/n
@Suppress("UNCHECKED_CAST")^/n    return last as T^/n^/n^/
* Returns the last element matching the
given [predicate].^/n^/
* @throws NoSuchElementException if no such element is found.^/n^/
* @sample
samples.collections.Collections.Elements.last^/n^/
*^/npublic inline fun <T> List<T>.last(predicate: (T) -> Boolean): T
{^/n    val iterator = this.listIterator(size)^/n    while (iterator.hasPrevious()) {^/n        val element = iterator.previous()^/n
if (predicate(element)) return element^/n    }^/n    throw NoSuchElementException("List contains no element
matching the predicate.")^/n^/n^/
* Returns last index of [element], or -1 if the collection does not contain
element.^/n^/
*^/npublic fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {^/n    if
(this is List) return this.lastIndexOf(element)^/n    var lastIndex = -1^/n    var index = 0^/n    for (item in this) {^/n
checkIndexOverflow(index)^/n    if (element == item)^/n        lastIndex = index^/n        index++^/n    }^/n    return
lastIndex^/n^/n^/
* Returns last index of [element], or -1 if the list does not contain element.^/n
^/
*^/n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases^/npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {^/n    return
lastIndexOf(element)^/n^/n^/
* Returns the last element, or `null` if the collection is empty.^/n^/
* @sample
samples.collections.Collections.Elements.last^/n^/
*^/npublic fun <T> Iterable<T>.lastOrNull(): T? {^/n    when (this)

```



```

    is List -> return if (isEmpty()) null else this[size - 1] else -> {
        val iterator = iterator()
        if (!iterator.hasNext()) return null
        var last = iterator.next()
        while (iterator.hasNext())
            last = iterator.next()
        return last
    }
}

Returns the last element, or `null` if the list is empty.
@sample samples.collections.Collections.Elements.last

public fun <T> List<T>.lastOrNull(): T? {
    return if (isEmpty()) null else this[size - 1]
}

Returns the last element matching the given [predicate], or `null` if no such element was found.
@sample samples.collections.Collections.Elements.last

public inline fun <T> Iterable<T>.lastOrNull(predicate: (T) -> Boolean): T? {
    var last: T? = null
    for (element in this) {
        if (predicate(element)) {
            last = element
        }
    }
    return last
}

Returns the last element matching the given [predicate], or `null` if no such element was found.
@sample samples.collections.Collections.Elements.last

public inline fun <T> List<T>.lastOrNull(predicate: (T) -> Boolean): T? {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        val element = iterator.previous()
        if (predicate(element)) return element
    }
    return null
}

Returns a random element from this collection.
@throws NoSuchElementException if this collection is empty.

@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <T> Collection<T>.random(): T {
    return random(Random)
}

Returns a random element from this collection using the specified source of randomness.
@throws NoSuchElementException if this collection is empty.

@SinceKotlin("1.3")
public fun <T> Collection<T>.random(random: Random): T {
    if (isEmpty())
        throw NoSuchElementException("Collection is empty.")
    return elementAt(random.nextInt(size))
}

Returns a random element from this collection, or `null` if this collection is empty.

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@kotlin.internal.InlineOnly
public inline fun <T> Collection<T>.randomOrNull(): T? {
    return randomOrNull(Random)
}

Returns a random element from this collection using the specified source of randomness, or `null` if this collection is empty.

@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public fun <T> Collection<T>.randomOrNull(random: Random): T? {
    if (isEmpty()) return null
    return elementAt(random.nextInt(size))
}

Returns the single element, or throws an exception if the collection is empty or has more than one element.

public fun <T> Iterable<T>.single(): T {
    when (this) {
        is List -> return this.single()
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext())
                throw NoSuchElementException("Collection is empty.")
            val single = iterator.next()
            if (iterator.hasNext())
                throw IllegalArgumentException("Collection has more than one element.")
            return single
        }
    }
}

Returns the single element, or throws an exception if the list is empty or has more than one element.

public fun <T> List<T>.single(): T {
    return when (size) {
        0 -> throw NoSuchElementException("List is empty.")
        1 -> this[0]
        else -> throw IllegalArgumentException("List has more than one element.")
    }
}

Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.

public inline fun <T> Iterable<T>.single(predicate: (T) -> Boolean): T {
    var single: T? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) throw IllegalArgumentException("Collection contains more than one matching element.")
            single = element
            found = true
        }
    }
    if (!found) throw NoSuchElementException("Collection contains no element matching the predicate.")
    @SuppressWarnings("UNCHECKED_CAST") return single as T
}

Returns single element, or `null` if the collection is empty or has more than one element.

public fun <T> Iterable<T>.singleOrNull(): T? {
    when (this) {
        is List -> return if (size == 1) this[0] else null
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext()) return null
            val single = iterator.next()
            if (iterator.hasNext()) return null
            return single
        }
    }
}

Returns single element, or `null` if the list is empty or has more than one element.

public fun <T> List<T>.singleOrNull(): T? {
    return if (size == 1) this[0] else null
}

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

public inline fun <T> Iterable<T>.singleOrNull(predicate: (T) -> Boolean): T? {
    var single: T? = null
    var found =

```

```

false\n for (element in this) {\n     if (predicate(element)) {\n         if (found) return null\n         single = element\n         found = true\n     }\n } \n if (!found) return null\n return single\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Iterable<T>.drop(n: Int): List<T> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return toList()\n    val list: ArrayList<T>\n    if (this is Collection<*>) {\n        val resultSize = size - n\n        if (resultSize <= 0)\n            return emptyList()\n        if (resultSize == 1)\n            return listOf(last())\n        list = ArrayList<T>(resultSize)\n        if (this is List<T>) {\n            if (this is RandomAccess) {\n                for (index in n until size)\n                    list.add(this[index])\n            } else {\n                for (item in listIterator(n))\n                    list.add(item)\n            }\n        }\n        return list\n    }\n    else {\n        for (item in listIterator(n))\n            list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> List<T>.dropLast(n: Int): List<T> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> List<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n    if (!isEmpty()) {\n        val iterator = listIterator(size)\n        while (iterator.hasPrevious()) {\n            if (!predicate(iterator.previous())) {\n                return take(iterator.nextIndex() + 1)\n            }\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> Iterable<T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n    var yielding = false\n    val list = ArrayList<T>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n            list.add(item)\n            yielding = true\n        }\n    return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Iterable<T>.filter(predicate: (T) -> Boolean): List<T> {\n    return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T> Iterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n    return filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Returns a list containing all elements that are instances of specified type parameter R.\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstance\n */\npublic inline fun <reified R> Iterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n    return filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type parameter R to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\n */\npublic inline fun <reified R, C : MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination: C): C {\n    for (element in this) if (element is R) destination.add(element)\n    return destination\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Iterable<T>.filterNot(predicate: (T) -> Boolean): List<T> {\n    return filterNotTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing all elements that are not `null`.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n */\npublic fun <T : Any> Iterable<T?>.filterNotNull():

```

```

List<T> {\n  return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the
given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n * \npublic fun <C
: MutableCollection<in T>, T : Any> Iterable<T?>.filterNotNullTo(destination: C): C {\n  for (element in this) if
(element != null) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
* \npublic inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterNotTo(destination: C, predicate: (T) ->
Boolean): C {\n  for (element in this) if (!predicate(element)) destination.add(element)\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n *
@sample samples.collections.Collections.Filtering.filterTo\n * \npublic inline fun <T, C : MutableCollection<in
T>> Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n  for (element in this) if
(predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Returns a list containing elements
at indices in the specified [indices] range.\n * \npublic fun <T> List<T>.slice(indices: IntRange): List<T> {\n  if
(indices.isEmpty()) return listOf()\n  return this.subList(indices.start, indices.endInclusive + 1).toList()\n}\n\n/**\n
* Returns a list containing elements at specified [indices].\n * \npublic fun <T> List<T>.slice(indices:
Iterable<Int>): List<T> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n
val list = ArrayList<T>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n
* Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n * \npublic fun <T> Iterable<T>.take(n: Int):
List<T> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return
emptyList()\n  if (this is Collection<T>) {\n    if (n >= size) return toList()\n    if (n == 1) return
listOf(first())\n  }\n  var count = 0\n  val list = ArrayList<T>(n)\n  for (item in this) {\n    list.add(item)\n
if (++count == n)\n    break\n  }\n  return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing
last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \npublic fun <T> List<T>.takeLast(n: Int): List<T> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return emptyList()\n  val size =
size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(last())\n  val list = ArrayList<T>(n)\n  if (this is
RandomAccess) {\n    for (index in size - n until size)\n      list.add(this[index])\n  } else {\n    for (item in
listIterator(size - n))\n      list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n * \npublic
inline fun <T> List<T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n  if (isEmpty())\n    return
emptyList()\n  val iterator = listIterator(size)\n  while (iterator.hasPrevious()) {\n    if
(!predicate(iterator.previous())) {\n      iterator.next()\n      val expectedSize = size - iterator.nextIndex()\n
if (expectedSize == 0) return emptyList()\n      return ArrayList<T>(expectedSize).apply {\n        while
(iterator.hasNext())\n          add(iterator.next())\n        }\n    }\n  }\n  return toList()\n}\n\n/**\n
* Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n * \npublic inline fun <T> Iterable<T>.takeWhile(predicate:
(T) -> Boolean): List<T> {\n  val list = ArrayList<T>()\n  for (item in this) {\n    if (!predicate(item))\n
break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Reverses elements in the list in-place.\n * \npublic
expect fun <T> MutableList<T>.reverse(): Unit\n\n/**\n * Returns a list with elements in reversed order.\n * \npublic
fun <T> Iterable<T>.reversed(): List<T> {\n  if (this is Collection && size <= 1) return toList()\n  val
list = toMutableList()\n  list.reverse()\n  return list\n}\n\n/**\n * Randomly shuffles elements in this list in-place
using the specified [random] instance as the source of randomness.\n * \n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
* \n * @SinceKotlin("1.3")\n * \npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n  for (i in lastIndex
downTo 1) {\n    val j = random.nextInt(i + 1)\n    this[j] = this.set(i, this[j])\n  }\n}\n\n/**\n * Sorts elements
in the list in-place according to natural sort order of the value returned by specified [selector] function.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \npublic
inline fun <T, R : Comparable<R>> MutableList<T>.sortBy(crossinline selector: (T) -> R?): Unit {\n  if (size > 1)

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sortWith(compareBy(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to natural sort
order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>>
MutableList<T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n    if (size > 1)
sortWith(compareByDescending(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to
their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n */\npublic fun <T : Comparable<T>> MutableList<T>.sortDescending(): Unit {\n
sortWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n *
\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */
\n */\npublic fun <T : Comparable<T>> Iterable<T>.sorted(): List<T> {\n    if (this is Collection) {\n        if (size <= 1)
return this.toList()\n        @Suppress("UNCHECKED_CAST")\n        return (toArray<Comparable<T>>())
as Array<T>).apply { sort() }.asList()\n    }\n    return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of
all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n *
\n */\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n    return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n    return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T>
{\n    return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n    if (this is
Collection) {\n        if (size <= 1) return this.toList()\n        @Suppress("UNCHECKED_CAST")\n        return
(toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n    }\n    return
toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the
elements of this collection.\n */\npublic fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n    val result
= BooleanArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n */\npublic fun
Collection<Byte>.toByteArray(): ByteArray {\n    val result = ByteArray(size)\n    var index = 0\n    for (element in
this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of Char containing all of the
elements of this collection.\n */\npublic fun Collection<Char>.toCharArray(): CharArray {\n    val result =
CharArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n */\npublic fun
Collection<Double>.toDoubleArray(): DoubleArray {\n    val result = DoubleArray(size)\n    var index = 0\n    for
(element in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of Float containing
all of the elements of this collection.\n */\npublic fun Collection<Float>.toFloatArray(): FloatArray {\n    val result
= FloatArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Int containing all of the elements of this collection.\n */\npublic fun
Collection<Int>.toIntArray(): IntArray {\n    val result = IntArray(size)\n    var index = 0\n    for (element in this)\n
        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of Long containing all of the elements
of this collection.\n */\npublic fun Collection<Long>.toLongArray(): LongArray {\n    val result =
LongArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n */\npublic fun
Collection<Short>.toShortArray(): ShortArray {\n    val result = ShortArray(size)\n    var index = 0\n    for (element

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in this)\n     result[index++] = element\n     return result\n}\n\n/\*\*\n \* Returns a [Map] containing key-value pairs provided by [transform] function\n \* applied to elements of the given collection.\n \* \n \* If any of two pairs would have the same key the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration order of the original collection.\n \* \n \* @sample samples.collections.Collections.Transformations.associate\n \*/\npublic inline fun <T, K, V> Iterable<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n     val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n     return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/\*\*\n \* Returns a [Map] containing the elements from the given collection indexed by the key\n \* returned from [keySelector] function applied to each element.\n \* \n \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration order of the original collection.\n \* \n \* @sample samples.collections.Collections.Transformations.associateBy\n \*/\npublic inline fun <T, K> Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n     val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n     return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)\n}\n\n/\*\*\n \* Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given collection.\n \* \n \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration order of the original collection.\n \* \n \* @sample samples.collections.Collections.Transformations.associateByWithValueTransform\n \*/\npublic inline fun <T, K, V> Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n     val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n     return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/\*\*\n \* Populates and returns the [destination] mutable map with key-value pairs,\n \* where key is provided by the [keySelector] function applied to each element of the given collection\n \* and value is the element itself.\n \* \n \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* @sample samples.collections.Collections.Transformations.associateByTo\n \*/\npublic inline fun <T, K, M : MutableMap<in K, in T>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n     for (element in this) {\n         destination.put(keySelector(element), element)\n     }\n     return destination\n}\n\n/\*\*\n \* Populates and returns the [destination] mutable map with key-value pairs,\n \* where key is provided by the [keySelector] function and\n \* value is provided by the [valueTransform] function applied to elements of the given collection.\n \* \n \* If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n \* \n \* @sample samples.collections.Collections.Transformations.associateByToWithValueTransform\n \*/\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n     for (element in this) {\n         destination.put(keySelector(element), valueTransform(element))\n     }\n     return destination\n}\n\n/\*\*\n \* Populates and returns the [destination] mutable map with key-value pairs\n \* provided by [transform] function applied to each element of the given collection.\n \* \n \* \n \* If any of two pairs would have the same key the last one gets added to the map.\n \* \n \* @sample samples.collections.Collections.Transformations.associateTo\n \*/\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n     for (element in this) {\n         destination += transform(element)\n     }\n     return destination\n}\n\n/\*\*\n \* Returns a [Map] where keys are elements from the given collection and values are\n \* produced by the [valueSelector] function applied to each element.\n \* \n \* If any two elements are equal, the last one gets added to the map.\n \* \n \* The returned map preserves the entry iteration order of the original collection.\n \* \n \* @sample samples.collections.Collections.Transformations.associateWith\n \*/\n@SinceKotlin("1.3")\npublic inline fun <K, V> Iterable<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n     val result = LinkedHashMap<K, V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))\n     return associateWithTo(result, valueSelector)\n}\n\n/\*\*\n \* Populates and returns the [destination] mutable map with key-value pairs for each element of the given collection,\n \* where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n \* \n \* If any two elements are equal, the last one overwrites the former value in the

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map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.3")\npublic inline fun <K, V, M : MutableMap<in K, in V>>
Iterable<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n  for (element in this) {\n
destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n**\n * Appends all elements to
the given [destination] collection.\n *\npublic fun <T, C : MutableCollection<in T>>
Iterable<T>.toCollection(destination: C): C {\n  for (item in this) {\n    destination.add(item)\n  }\n  return
destination\n}\n\n**\n * Returns a new [HashSet] of all elements.\n *\npublic fun <T> Iterable<T>.toHashSet():
HashSet<T> {\n  return toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))\n}\n\n**\n *
Returns a [List] containing all elements.\n *\npublic fun <T> Iterable<T>.toList(): List<T> {\n  if (this is
Collection) {\n    return when (size) {\n      0 -> emptyList()\n      1 -> listOf(if (this is List) get(0) else
iterator().next())\n    } else -> this.toMutableList()\n  }\n  return
this.toMutableList().optimizeReadOnlyList()\n}\n\n**\n * Returns a new [MutableList] filled with all elements of
this collection.\n *\npublic fun <T> Iterable<T>.toMutableList(): MutableList<T> {\n  if (this is Collection<T>)\n    return this.toMutableList()\n  return toCollection(ArrayList<T>())\n}\n\n**\n * Returns a new [MutableList]
filled with all elements of this collection.\n *\npublic fun <T> Collection<T>.toMutableList(): MutableList<T> {\n
return ArrayList(this)\n}\n\n**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element
iteration order of the original collection.\n *\npublic fun <T> Iterable<T>.toSet(): Set<T> {\n  if (this is
Collection) {\n    return when (size) {\n      0 -> emptySet()\n      1 -> setOf(if (this is List) this[0] else
iterator().next())\n    } else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n  }\n  return
toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n**\n * Returns a single list of all elements
yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n *\npublic inline fun <T, R>
Iterable<T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <T, R>
Iterable<T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element\n * and its index in the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\n@kotlin.internal.InlineOnly\npublic
inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n  return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original collection, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index:
Int, T) -> Iterable<R>): C {\n  var index = 0\n  for (element in this) {\n    val list =

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transform(checkIndexOverflow(index++), element)\n    destination.addAll(list)\n } \n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element\n * and its index in the original collection, to the given [destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npu
blic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original collection, to the given [destination].\n *\npublic inline fun <T, R, C : MutableCollection<in
R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val
list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original collection, to the
given [destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequenceTo")\npublic inline fun <T, R, C :
MutableCollection<in R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *\npublic inline
fun <T, K> Iterable<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original collection\n * by the key returned by the given
[keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of
corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\npublic inline fun <T, K, V> Iterable<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K,
List<V>> {\n    return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector,
valueTransform)\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given
[keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with
a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n    for (element in this) {\n
        val key = keySelector(element)\n        val list = destination.getOrPut(key) { ArrayList<T>() }\n
list.add(element)\n    }\n    return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function
applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied
to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list =
destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return
destination\n}\n\n/**\n * Creates a [Grouping] source from a collection to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n *\n@SinceKotlin("1.1")\npublic inline fun <T, K>
Iterable<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n    return object : Grouping<T, K>

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{\n    override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n    override fun keyOf(element:
T): K = keySelector(element)\n    }\n}\n\n/**\n * Returns a list containing the results of applying the given
[transform] function\n * to each element in the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.map\n */\npublic inline fun <T, R> Iterable<T>.map(transform:
(T) -> R): List<R> {\n    return mapTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element and its index in
the original collection.\n * @param [transform] function that takes the index of an element and the element itself\n *
and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R>
Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n    return
mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing only
the non-null results of applying the given [transform] function\n * to each element and its index in the original
collection.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns
the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any>
Iterable<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n    return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original collection\n * and appends only the non-null results to the given [destination].\n
* @param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>>
Iterable<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n    forEachIndexed {
index, element -> transform(index, element)?.let { destination.add(it) } }\n    return destination\n}\n\n/**\n *
Applies the given [transform] function to each element and its index in the original collection\n * and appends the
results to the given [destination].\n * @param [transform] function that takes the index of an element and the
element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R, C :
MutableCollection<in R>> Iterable<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n    var
index = 0\n    for (item in this)\n        destination.add(transform(checkIndexOverflow(index++), item))\n    return
destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform]
function\n * to each element in the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.mapNotNull\n */\npublic inline fun <T, R : Any>
Iterable<T>.mapNotNull(transform: (T) -> R?): List<R> {\n    return mapNotNullTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Applies the given [transform] function to each element in the original collection\n * and
appends only the non-null results to the given [destination].\n */\npublic inline fun <T, R : Any, C :
MutableCollection<in R>> Iterable<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n    forEach {
element -> transform(element)?.let { destination.add(it) } }\n    return destination\n}\n\n/**\n * Applies the given
[transform] function to each element of the original collection\n * and appends the results to the given
[destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapTo(destination: C,
transform: (T) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return
destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original collection\n * into an
[IndexValue] containing the index of that element and the element itself.\n */\npublic fun <T>
Iterable<T>.withIndex(): Iterable<IndexedValue<T>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a list containing only distinct elements from the given collection.\n * \n * Among equal elements of the
given collection, only the first one will be present in the resulting list.\n * The elements in the resulting list are in
the same order as they were in the source collection.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Iterable<T>.distinct():
List<T> {\n    return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only elements from the
given collection\n * having distinct keys returned by the given [selector] function.\n * \n * Among elements of the
given collection with equal keys, only the first one will be present in the resulting list.\n * The elements in the
resulting list are in the same order as they were in the source collection.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <T, K>

```



```

Iterable<T>.distinctBy(selector: (T) -> K): List<T> {\n    val set = HashSet<K>()\n    val list = ArrayList<T>()\n
for (e in this) {\n    val key = selector(e)\n    if (set.add(key))\n        list.add(e)\n    }\n    return list}\n\n/**\n * Returns a set containing all elements that are contained by both this collection and the specified collection.\n * \n * The returned set preserves the element iteration order of the original collection.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T>
Iterable<T>.intersect(other: Iterable<T>): Set<T> {\n    val set = this.toMutableSet()\n    set.retainAll(other)\n
return set}\n\n/**\n * Returns a set containing all elements that are contained by this collection and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic infix fun <T> Iterable<T>.subtract(other: Iterable<T>): Set<T> {\n    val set = this.toMutableSet()\n    set.removeAll(other)\n    return set}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given collection.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toMutableSet(): MutableSet<T> {\n    return when (this) {\n        is Collection<T> -> LinkedHashSet(this)\n        else -> toCollection(LinkedHashSet<T>())\n    }\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original collection.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun <T> Iterable<T>.union(other: Iterable<T>): Set<T> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T>
Iterable<T>.all(predicate: (T) -> Boolean): Boolean {\n    if (this is Collection && isEmpty()) return true\n    for (element in this) if (!predicate(element)) return false\n    return true}\n\n/**\n * Returns `true` if collection has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <T>
Iterable<T>.any(): Boolean {\n    if (this is Collection) return !isEmpty()\n    return iterator().hasNext()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T>
Iterable<T>.any(predicate: (T) -> Boolean): Boolean {\n    if (this is Collection && isEmpty()) return false\n    for (element in this) if (predicate(element)) return true\n    return false}\n\n/**\n * Returns the number of elements in this collection.\n */\npublic fun <T> Iterable<T>.count(): Int {\n    if (this is Collection) return size\n    var count = 0\n    for (element in this) checkCountOverflow(++count)\n    return count}\n\n/**\n * Returns the number of elements in this collection.\n * \n * @kotlin.internal.InlineOnly\n */\npublic inline fun <T> Collection<T>.count(): Int {\n    return size}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T>
Iterable<T>.count(predicate: (T) -> Boolean): Int {\n    if (this is Collection && isEmpty()) return 0\n    var count = 0\n    for (element in this) if (predicate(element)) checkCountOverflow(++count)\n    return count}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n    var accumulator = initial\n    for (element in this) accumulator = operation(accumulator, element)\n    return accumulator}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n    var index = 0\n    var accumulator = initial\n    for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n    return accumulator}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */

```

```

*public inline fun <T, R> List<T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {
    var accumulator = initial
    if (!isEmpty()) {
        val iterator = listIterator(size)
        while (iterator.hasPrevious()) {
            accumulator = operation(iterator.previous(), accumulator)
        }
    }
    return accumulator
}

Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original list and current accumulator value. Returns the specified [initial] value if the list is empty.
@param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.

*public inline fun <T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {
    var accumulator = initial
    if (!isEmpty()) {
        val iterator = listIterator(size)
        while (iterator.hasPrevious()) {
            val index = iterator.previousIndex()
            accumulator = operation(index, iterator.previous(), accumulator)
        }
    }
    return accumulator
}

Performs the given [action] on each element.

*internal.HidesMembers
*public inline fun <T> Iterable<T>.forEach(action: (T) -> Unit): Unit {
    for (element in this) action(element)
}

Performs the given [action] on each element, providing sequential index with the element.
@param [action] function that takes the index of an element and the element itself and performs the action on the element.

*public inline fun <T> Iterable<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {
    var index = 0
    for (item in this) action(checkIndexOverflow(index++), item)
}

@Deprecated("Use maxOrNull instead.", ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
@SinceKotlin("1.1")
public fun Iterable<Double>.max(): Double? {
    return maxOrNull()
}

@Deprecated("Use maxOrNull instead.", ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
@SinceKotlin("1.1")
public fun Iterable<Float>.max(): Float? {
    return maxOrNull()
}

@Deprecated("Use maxOrNull instead.", ReplaceWith("this.maxOrNull()"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
public fun <T : Comparable<T>> Iterable<T>.max(): T? {
    return maxOrNull()
}

@Deprecated("Use maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
public inline fun <T, R : Comparable<R>> Iterable<T>.maxBy(selector: (T) -> R): T? {
    return maxByOrNull(selector)
}

Returns the first element yielding the largest value of the given function or `null` if there are no elements.
@sample
samples.collections.Collections.Aggregates.maxByOrNull
*SinceKotlin("1.4")
public inline fun <T, R : Comparable<R>> Iterable<T>.maxByOrNull(selector: (T) -> R): T? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxElem = iterator.next()
    if (!iterator.hasNext()) return maxElem
    var maxV = selector(maxElem)
    do {
        val e = iterator.next()
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    } while (iterator.hasNext())
    return maxElem
}

Returns the largest value among all values produced by [selector] function applied to each element in the collection.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the collection is empty.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOf(selector: (T) -> Double): Double {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var maxV = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxV = maxOf(maxV, v)
    }
    return maxV
}

Returns the largest value among all values produced by [selector] function applied to each element in the collection.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the collection is empty.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOf(selector: (T) ->

```

```

Float): Float {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var
    maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}

/** Returns the largest value among all
values produced by [selector] function
* applied to each element in the collection.
* @throws
NoSuchElementException if the collection is empty.
*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>>
Iterable<T>.maxOf(selector: (T) -> R): R {
    val iterator = iterator()
    if (!iterator.hasNext()) throw
    NoSuchElementException()
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v
        = selector(iterator.next())
        if (maxValue < v)
            maxValue = v
    }
    return
    maxValue
}

/** Returns the largest value among all values produced by [selector] function
* applied to each element in the collection or `null` if there are no elements.
* If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.
*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>>
Iterable<T>.maxOfOrNull(selector: (T)
-> Double): Double? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue =
    selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue =
        maxOf(maxValue, v)
    }
    return maxValue
}

/** Returns the largest value among all values produced
by [selector] function
* applied to each element in the collection or `null` if there are no elements.
* If any
of values produced by [selector] function is `NaN`, the returned result is `NaN`.
*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Iterable<T>.maxOfOrNull(selector: (T)
-> Float): Float? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue =
    selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue =
        maxOf(maxValue, v)
    }
    return maxValue
}

/** Returns the largest value among all values produced
by [selector] function
* applied to each element in the collection or `null` if there are no elements.
*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>>
Iterable<T>.maxOfOrNull(selector: (T) -> R): R? {
    val iterator = iterator()
    if (!iterator.hasNext()) return
    null
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v =
        selector(iterator.next())
        if (maxValue < v)
            maxValue = v
    }
    return
    maxValue
}

/** Returns the largest value according to the provided [comparator]
* among all values
produced by [selector] function applied to each element in the collection.
* @throws
NoSuchElementException if the collection is empty.
*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R>
Iterable<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {
    val iterator = iterator()
    if
    (!iterator.hasNext()) throw NoSuchElementException()
    var maxValue = selector(iterator.next())
    while
    (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(maxValue, v) < 0)
            maxValue = v
    }
    return maxValue
}

/** Returns the largest value according to the provided
[comparator]
* among all values produced by [selector] function applied to each element in the collection or `null`
if there are no elements.
*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution
ByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R>
Iterable<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {
    val iterator =
    iterator()
    if (!iterator.hasNext()) return null
    var maxValue = selector(iterator.next())
    while
    (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(maxValue, v) < 0)
            maxValue = v
    }
    return maxValue
}

/** Returns the largest element or `null` if there are no

```

```

elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n\n@SinceKotlin("1.4")\npublic fun
Iterable<Double>.maxOrNull(): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var
max = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of
elements is `NaN` returns `NaN`.\n * \n\n@SinceKotlin("1.4")\npublic fun Iterable<Float>.maxOrNull(): Float? {\n
val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        max = maxOf(max, e)\n    }\n    return max\n}\n\n/**\n *
Returns the largest element or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun <T :
Comparable<T>> Iterable<T>.maxOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n
var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (max < e) max = e\n
    }\n    return max\n}\n\n@Deprecated("Use maxWithOrNull instead.\",
ReplaceWith("this.maxWithOrNull(comparator)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T? {\n
return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun <T>
Iterable<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var max = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n@Deprecated("Use
minOrNull instead.\", ReplaceWith("this.minOrNull()")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Double>.min(): Double?
{\n    return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.\",
ReplaceWith("this.minOrNull()")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Iterable<Float>.min(): Float? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.\",
ReplaceWith("this.minOrNull()")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Iterable<T>.min(): T? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minByOrNull instead.\",
ReplaceWith("this.minByOrNull(selector)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Iterable<T>.minBy(selector: (T) -> R):
T? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n * \n\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Iterable<T>.minByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minElem = iterator.next()\n    if (!iterator.hasNext()) return minElem\n    var
minValue = selector(minElem)\n    do {\n        val e = iterator.next()\n        val v = selector(e)\n        if (minValue >
v) {\n            minElem = e\n            minValue = v\n        }\n    } while (iterator.hasNext())\n    return
minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result
is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n * \n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
if the collection is empty.\n * \n\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the collection.\n * \n * @throws
NoSuchElementException if the collection is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOfOrNull(selector: (T)
-> Double): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any
of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOfOrNull(selector: (T)
-> Float): Float? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var minValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        minValue =
minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.minOfOrNull(selector: (T) -> R): R? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return
null\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v =
selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the collection.\n * \n * @throws
NoSuchElementException if the collection is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.minOfWith(comparator:
Comparator<in R>, selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n
return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all
values produced by [selector] function applied to each element in the collection or `null` if there are no elements.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R>
Iterable<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n    val iterator =
iterator()\n    if (!iterator.hasNext()) return null\n    var minValue = selector(iterator.next())\n    while
(iterator.hasNext()) {\n        val v = selector(iterator.next())\n        if (comparator.compare(minValue, v) > 0) {\n
            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are

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```

no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n * \n\n@SinceKotlin("1.4")\npublic fun
Iterable<Double>.minOrNull(): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var
min = iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements
is `NaN` returns `NaN`.\n * \n\n@SinceKotlin("1.4")\npublic fun Iterable<Float>.minOrNull(): Float? {\n    val
iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext())
{\n        val e = iterator.next()\n        min = minOf(min, e)\n    }\n    return min\n}\n\n/**\n * Returns the smallest
element or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun <T : Comparable<T>>
Iterable<T>.minOrNull(): T? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var min =
iterator.next()\n    while (iterator.hasNext()) {\n        val e = iterator.next()\n        if (min > e) min = e\n    }\n    return
min\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun <T> Iterable<T>.minWith(comparator: Comparator<in T>): T? {\n
return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to
the provided [comparator] or `null` if there are no elements.\n * \n\n@SinceKotlin("1.4")\npublic fun <T>
Iterable<T>.minWithOrNull(comparator: Comparator<in T>): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var min = iterator.next()\n    while (iterator.hasNext()) {\n        val e =
iterator.next()\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if
the collection has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n * \n\npublic fun
<T> Iterable<T>.none(): Boolean {\n    if (this is Collection) return isEmpty()\n    return
!iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n * \n\npublic inline fun <T>
Iterable<T>.none(predicate: (T) -> Boolean): Boolean {\n    if (this is Collection && isEmpty()) return true\n    for
(element in this) if (predicate(element)) return false\n    return true\n}\n\n/**\n * Performs the given [action] on each
element and returns the collection itself afterwards.\n * \n\n@SinceKotlin("1.1")\npublic inline fun <T, C :
Iterable<T>> C.onEach(action: (T) -> Unit): C {\n    return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and
returns the collection itself afterwards.\n * \n * @param [action] function that takes the index of an element and the
element itself\n * and performs the action on the element.\n * \n\n@SinceKotlin("1.4")\npublic inline fun <T, C :
Iterable<T>> C.onEachIndexed(action: (index: Int, T) -> Unit): C {\n    return apply { forEachIndexed(action)
}\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to
current accumulator value and each element.\n * \n * Throws an exception if this collection is empty. If the
collection can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver
is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and
calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun <S, T : S> Iterable<T>.reduce(operation: (acc: S, T) -> S): S {\n    val iterator = this.iterator()\n
if (!iterator.hasNext()) throw UnsupportedOperationException("Empty collection can't be reduced.")\n    var
accumulator: S = iterator.next()\n    while (iterator.hasNext()) {\n        accumulator = operation(accumulator,
iterator.next())\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and
applying [operation] from left to right\n * to current accumulator value and each element with its index in the
original collection.\n * \n * Throws an exception if this collection is empty. If the collection can be empty in an
expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value and the element itself,\n *
and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n * \n\npublic inline fun <S, T : S> Iterable<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n    val
iterator = this.iterator()\n    if (!iterator.hasNext()) throw UnsupportedOperationException("Empty collection can't
be reduced.")\n    var index = 1\n    var accumulator: S = iterator.next()\n    while (iterator.hasNext()) {\n
accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n    }\n    return

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accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Returns
`null` if the collection is empty.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n * \n * @SinceKotlin("1.4")\npublic inline fun <S, T : S>
Iterable<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n    val iterator = this.iterator()\n    if
(!iterator.hasNext()) return null\n    var index = 1\n    var accumulator: S = iterator.next()\n    while
(iterator.hasNext()) {\n        accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the collection is
empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates
the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
* \n * @SinceKotlin("1.4")\n * @WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Iterable<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n    val iterator = this.iterator()\n    if
(!iterator.hasNext()) return null\n    var accumulator: S = iterator.next()\n    while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with the last element and applying [operation] from right to left\n * to each element and current accumulator
value.\n * \n * Throws an exception if this list is empty. If the list can be empty in an expected way,\n * please use
[reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \n * @SinceKotlin("1.4")\npublic inline fun <S, T : S>
List<T>.reduceRight(operation: (T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        accumulator =
operation(iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with the last element and applying [operation] from right to left\n * to each element with its index in the original list
and current accumulator value.\n * \n * Throws an exception if this list is empty. If the list can be empty in an
expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n
* @param [operation] function that takes the index of an element, the element itself and current accumulator
value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n * \n * @SinceKotlin("1.4")\npublic inline fun <S, T : S>
List<T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n
accumulator = operation(index, iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original list and current accumulator value.\n * \n * Returns `null` if the list is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n
* and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n * \n * @SinceKotlin("1.4")\npublic inline fun <S,
T : S> List<T>.reduceRightIndexedOrNull(operation: (index: Int, T, acc: S) -> S): S? {\n    val iterator =
listIterator(size)\n    if (!iterator.hasPrevious())\n        return null\n    var accumulator: S = iterator.previous()\n
while (iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n        accumulator = operation(index,
iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last
element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n *
Returns `null` if the list is empty.\n * \n * @param [operation] function that takes an element and current
accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n

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*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
List<T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n  val iterator = listIterator(size)\n  if
(!iterator.hasPrevious())\n    return null\n  var accumulator: S = iterator.previous()\n  while
(iterator.hasPrevious()) {\n    accumulator = operation(iterator.previous(), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n
* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an
element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\npublic inline fun <T, R>
Iterable<T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n  val estimatedSize =
collectionSizeOrDefault(9)\n  if (estimatedSize == 0) return listOf(initial)\n  val result =
ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n  var accumulator = initial\n  for (element in this) {\n
accumulator = operation(accumulator, element)\n  result.add(accumulator)\n  }\n  return result\n}\n\n/**\n *
Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to
each element, its index in the original collection and current accumulator value that starts with [initial] value.\n * \n
* Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the
previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningFold\n
*\n@SinceKotlin("1.4")\npublic inline fun <T, R>
Iterable<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n  val estimatedSize
= collectionSizeOrDefault(9)\n  if (estimatedSize == 0) return listOf(initial)\n  val result =
ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n  var index = 0\n  var accumulator = initial\n  for
(element in this) {\n    accumulator = operation(index++, accumulator, element)\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it
would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator
value and the element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Iterable<T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n  val iterator = this.iterator()\n  if
(!iterator.hasNext()) return emptyList()\n  var accumulator: S = iterator.next()\n  val result =
ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n  while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n  result.add(accumulator)\n  }\n  return
result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from
left to right\n * to each element, its index in the original collection and current accumulator value that starts with the
first element of this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n
* otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\npublic inline fun <S, T : S> Iterable<T>.runningReduceIndexed(operation: (index: Int,
acc: S, T) -> S): List<S> {\n  val iterator = this.iterator()\n  if (!iterator.hasNext()) return emptyList()\n  var
accumulator: S = iterator.next()\n  val result = ArrayList<S>(collectionSizeOrDefault(10)).apply {
add(accumulator) }\n  var index = 1\n  while (iterator.hasNext()) {\n    accumulator = operation(index++,
accumulator, iterator.next())\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]

```



function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.scan\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Iterable<T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n    return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original collection and current accumulator value that starts
with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R>
Iterable<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n    return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n * \n * @Deprecated("Use sumOf instead.")\n
```

```
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Iterable<T>.sumBy(selector: (T) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n * \n * @Deprecated("Use sumOf instead.")\n
```

```
ReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun <T>
Iterable<T>.sumByDouble(selector: (T) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Iterable<T>.sumOf(selector: (T) -> Double): Double {\n    var sum: Double = 0.toDouble()\n    for (element in
this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.sumOf(selector: (T) -> Int): Int {\n    var sum: Int = 0.toInt()\n    for (element in this) {\n       
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Iterable<T>.sumOf(selector: (T) -> Long): Long {\n    var sum: Long = 0.toLong()\n    for (element in this) {\n
        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the collection.\n
```

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> UInt): UInt {\n
    var sum: UInt = 0.toUInt()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the
collection.\n
```

```
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfULong")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> ULong): ULong
{\n    var sum: ULong = 0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return
```

```

sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any>
Iterable<T?>.requireNoNulls(): Iterable<T> {\n    for (element in this) {\n        if (element == null) {\n            throw
IllegalArgumentException("null element found in $this.")\n        }\n    }\n}
@Suppress("UNCHECKED_CAST")\n return this as Iterable<T>}\n\n/**\n * Returns an original collection
containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n
*/\npublic fun <T : Any> List<T?>.requireNoNulls(): List<T> {\n    for (element in this) {\n        if (element ==
null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n    }\n}
@Suppress("UNCHECKED_CAST")\n return this as List<T>}\n\n/**\n * Splits this collection into a list of
lists each not exceeding the given [size].\n * \n * The last list in the resulting list may have fewer elements than the
given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater
than the number of elements in this collection.\n * \n * @sample
samples.collections.Collections.Transformations.chunked\n */\n@SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.chunked(size: Int): List<List<T>> {\n    return windowed(size, size, partialWindows = true)\n}\n\n/**\n
* Splits this collection into several lists each not exceeding the given [size]\n * and applies the given [transform]
function to an each.\n * \n * @return list of results of the [transform] applied to an each list.\n * \n * Note that the
list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it
or allow it to escape in some way, unless you made a snapshot of it.\n * The last list may have fewer elements than
the given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be
greater than the number of elements in this collection.\n * \n * @sample samples.text.Strings.chunkedTransform\n
*/\n@SinceKotlin("1.2")\npublic fun <T, R> Iterable<T>.chunked(size: Int, transform: (List<T>) -> R): List<R>
{\n    return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Returns a list
containing all elements of the original collection without the first occurrence of the given [element].\n */\npublic
operator fun <T> Iterable<T>.minus(element: T): List<T> {\n    val result =
ArrayList<T>(collectionSizeOrDefault(10))\n    var removed = false\n    return this.filterTo(result) { if (!removed
&& it == element) { removed = true; false } else true }\n}\n\n/**\n * Returns a list containing all elements of the
original collection except the elements contained in the given [elements] array.\n * \n * Before Kotlin 1.6, the
[elements] array may have been converted to a [HashSet] to speed up the operation, thus the elements were required
to have\n * a correct and stable implementation of `hashCode()` that didn't change between successive
invocations.\n * On JVM, you can enable this behavior back with the system property
`kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n */\npublic operator fun <T>
Iterable<T>.minus(elements: Array<out T>): List<T> {\n    if (elements.isEmpty()) return this.toList()\n    val other
= elements.convertToSetForSetOperation()\n    return this.filterNot { it in other }\n}\n\n/**\n * Returns a list
containing all elements of the original collection except the elements contained in the given [elements] collection.\n
*\n * \n * Before Kotlin 1.6, the [elements] collection may have been converted to a [HashSet] to speed up the
operation, thus the elements were required to have\n * a correct and stable implementation of `hashCode()` that
didn't change between successive invocations.\n * On JVM, you can enable this behavior back with the system
property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.\n */\npublic operator fun <T>
Iterable<T>.minus(elements: Iterable<T>): List<T> {\n    val other =
elements.convertToSetForSetOperationWith(this)\n    if (other.isEmpty())\n        return this.toList()\n    return
this.filterNot { it in other }\n}\n\n/**\n * Returns a list containing all elements of the original collection except the
elements contained in the given [elements] sequence.\n * \n * Before Kotlin 1.6, the [elements] sequence may have
been converted to a [HashSet] to speed up the operation, thus the elements were required to have\n * a correct and
stable implementation of `hashCode()` that didn't change between successive invocations.\n * On JVM, you can
enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to
`true`.\n */\npublic operator fun <T> Iterable<T>.minus(elements: Sequence<T>): List<T> {\n    val other =
elements.convertToSetForSetOperation()\n    if (other.isEmpty())\n        return this.toList()\n    return this.filterNot {
it in other }\n}\n\n/**\n * Returns a list containing all elements of the original collection without the first occurrence

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of the given [element].\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.minusElement(element: T): List<T> {\n    return minus(element)\n}\n\n/**\n * Splits the original
collection into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while
*second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample
samples.collections.Iterables.Operations.partition\n *\npublic inline fun <T> Iterable<T>.partition(predicate: (T) ->
Boolean): Pair<List<T>, List<T>> {\n    val first = ArrayList<T>()\n    val second = ArrayList<T>()\n    for
(element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n
second.add(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then the given [element].\n *\npublic operator fun <T> Iterable<T>.plus(element: T):
List<T> {\n    if (this is Collection) return this.plus(element)\n    val result = ArrayList<T>()\n
result.addAll(this)\n    result.add(element)\n    return result\n}\n\n/**\n * Returns a list containing all elements of the
original collection and then the given [element].\n *\npublic operator fun <T> Collection<T>.plus(element: T):
List<T> {\n    val result = ArrayList<T>(size + 1)\n    result.addAll(this)\n    result.add(element)\n    return
result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given
[elements] array.\n *\npublic operator fun <T> Iterable<T>.plus(elements: Array<out T>): List<T> {\n    if (this is
Collection) return this.plus(elements)\n    val result = ArrayList<T>()\n    result.addAll(this)\n
result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] array.\n *\npublic operator fun <T>
Collection<T>.plus(elements: Array<out T>): List<T> {\n    val result = ArrayList<T>(this.size + elements.size)\n
result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then all elements of the given [elements] collection.\n *\npublic operator fun <T>
Iterable<T>.plus(elements: Iterable<T>): List<T> {\n    if (this is Collection) return this.plus(elements)\n    val
result = ArrayList<T>()\n    result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a
list containing all elements of the original collection and then all elements of the given [elements] collection.\n *\npublic operator fun <T> Collection<T>.plus(elements: Iterable<T>): List<T> {\n    if (elements is Collection)
{\n        val result = ArrayList<T>(this.size + elements.size)\n        result.addAll(this)\n
result.addAll(elements)\n        return result\n    } else {\n        val result = ArrayList<T>(this)\n
result.addAll(elements)\n        return result\n    }\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] sequence.\n *\npublic operator fun <T>
Iterable<T>.plus(elements: Sequence<T>): List<T> {\n    val result = ArrayList<T>()\n    result.addAll(this)\n
result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements of the original
collection and then all elements of the given [elements] sequence.\n *\npublic operator fun <T>
Collection<T>.plus(elements: Sequence<T>): List<T> {\n    val result = ArrayList<T>(this.size + 10)\n
result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then the given [element].\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.plusElement(element: T): List<T> {\n    return plus(element)\n}\n\n/**\n * Returns a list containing all
elements of the original collection and then the given [element].\n *\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>.plusElement(element: T): List<T> {\n    return plus(element)\n}\n\n/**\n * Returns a list of
snapshots of the window of the given [size]\n * sliding along this collection with the given [step], where each\n *
snapshot is a list.\n * \n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and
[step] must be positive and can be greater than the number of elements in this collection.\n * @param size the
number of elements to take in each window\n * @param step the number of elements to move the window forward
by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the
end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.takeWindows\n *\n@SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<List<T>> {\n
checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize = this.size\n
val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n        val result =

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ArrayList<List<T>>(resultCapacity)\n    var index = 0\n    while (index in 0 until thisSize) {\n        val
windowSize = size.coerceAtMost(thisSize - index)\n        if (windowSize < size && !partialWindows) break\n
        result.add(List(windowSize) { this[it + index] })\n        index += step\n    }\n    return result\n }\n val
result = ArrayList<List<T>>()\n windowedIterator(iterator(), size, step, partialWindows, reuseBuffer =
false).forEach {\n    result.add(it)\n }\n return result\n}\n\n/**\n * Returns a list of results of applying the
given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding
along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral
and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made
a snapshot of it.\n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and [step]
must be positive and can be greater than the number of elements in this collection.\n * @param size the number of
elements to take in each window\n * @param step the number of elements to move the window forward by on an
each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if
any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.averageWindows\n */\n\n@SinceKotlin("1.2")\npublic fun <T, R>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
List<R> {\n    checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize =
this.size\n        val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n        val result =
ArrayList<R>(resultCapacity)\n        val window = MovingSubList(this)\n        var index = 0\n        while (index in 0
until thisSize) {\n            val windowSize = size.coerceAtMost(thisSize - index)\n            if (!partialWindows &&
windowSize < size) break\n            window.move(index, index + windowSize)\n            result.add(transform(window))\n
            index += step\n        }\n        return result\n    }\n    val result =
ArrayList<R>()\n    windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = true).forEach {\n
        result.add(transform(it))\n    }\n    return result\n}\n\n/**\n * Returns a list of pairs built from the elements of `this`
collection and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n *
@sample samples.collections.Iterables.Operations.zipIterable\n */\n\npublic infix fun <T, R> Iterable<T>.zip(other:
Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values
built from the elements of `this` collection and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n *
@sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n\npublic inline fun <T, R, V>
Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n    val arraySize = other.size\n    val
list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in this) {\n        if
(i >= arraySize) break\n        list.add(transform(element, other[i++]))\n    }\n    return list\n}\n\n/**\n * Returns a list
of pairs built from the elements of `this` collection and [other] collection with the same index.\n * The returned list
has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n\npublic infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 ->
t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] collection
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n\npublic inline fun <T, R, V>
Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n    val first = iterator()\n    val second
= other.iterator()\n    val list = ArrayList<V>(minOf(collectionSizeOrDefault(10),
other.collectionSizeOrDefault(10)))\n    while (first.hasNext() && second.hasNext()) {\n
        list.add(transform(first.next(), second.next()))\n    }\n    return list\n}\n\n/**\n * Returns a list of pairs of each two
adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains less than two
elements.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n */\n\n@SinceKotlin("1.2")\npublic fun <T> Iterable<T>.zipWithNext(): List<Pair<T, T>> {\n    return zipWithNext
{ a, b -> a to b }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to
an each pair of two adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains

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less than two elements.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n * \n @SinceKotlin("1.2")\npublic
inline fun <T, R> Iterable<T>.zipWithNext(transform: (a: T, b: T) -> R): List<R> {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return emptyList()\n    val result = mutableListOf<R>()\n    var current = iterator.next()\n
while (iterator.hasNext()) {\n        val next = iterator.next()\n        result.add(transform(current, next))\n        current
= next\n    }\n    return result\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and
using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-
negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the
[truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n * \n @public fun <T, A : Appendable>
Iterable<T>.joinTo(buffer: A, separator: CharSequence = '\n', prefix: CharSequence = "\n", postfix: CharSequence
= "\n", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): A {\n
buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1) buffer.append(separator)\n
        if (limit < 0 || count <= limit) {\n            buffer.appendElement(element, transform)\n        } else break\n    }\n
(limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return buffer\n}\n\n/**\n *
Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n * \n @public fun <T>
Iterable<T>.joinToString(separator: CharSequence = '\n', prefix: CharSequence = "\n", postfix: CharSequence =
"\n", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? = null): String {\n    return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Returns this
collection as an [Iterable].\n * \n @kotlin.internal.InlineOnly\n @public inline fun <T> Iterable<T>.asIterable():
Iterable<T> {\n    return this\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original collection returning
its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromCollection\n * \n @public fun <T> Iterable<T>.asSequence():
Sequence<T> {\n    return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the
collection.\n * \n @kotlin.jvm.JvmName("averageOfByte")\n @public fun Iterable<Byte>.average(): Double {\n    var
sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the collection.\n * \n @kotlin.jvm.JvmName("averageOfShort")\n @public fun
Iterable<Short>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the collection.\n * \n @kotlin.jvm.JvmName("averageOfInt")\n @public fun Iterable<Int>.average(): Double {\n    var sum: Double =
0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n
    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the
collection.\n * \n @kotlin.jvm.JvmName("averageOfLong")\n @public fun Iterable<Long>.average(): Double {\n    var
sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the collection.\n * \n @kotlin.jvm.JvmName("averageOfFloat")\n @public fun
Iterable<Float>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the collection.\n * \n @kotlin.jvm.JvmName("averageOfDouble")\n @public fun Iterable<Double>.average(): Double {\n    var sum:
Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the collection.\n * \n @kotlin.jvm.JvmName("sumOfByte")\n @public fun

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Iterable<Byte>.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the collection. */
@kotlin.jvm.JvmName("sumOfShort")
public fun Iterable<Short>.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the collection. */
@kotlin.jvm.JvmName("sumOfInt")
public fun Iterable<Int>.sum(): Int {
    var sum: Int = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the collection. */
@kotlin.jvm.JvmName("sumOfLong")
public fun Iterable<Long>.sum(): Long {
    var sum: Long = 0L
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the collection. */
@kotlin.jvm.JvmName("sumOfFloat")
public fun Iterable<Float>.sum(): Float {
    var sum: Float = 0.0f
    for (element in this) {
        sum += element
    }
    return sum
}

/** Returns the sum of all elements in the collection. */
@kotlin.jvm.JvmName("sumOfDouble")
public fun Iterable<Double>.sum(): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += element
    }
    return sum
}

/* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. */
package kotlin.collections
import kotlin.comparisons.naturalOrder
import kotlin.random.Random

/** Returns the array if it's not `null`, or an empty array otherwise. */
@sample samples.collections.Arrays.Usage.arrayOrEmpty

@kotlin.internal.InlineOnly
public actual inline fun <T> Array<out T>?.orEmpty(): Array<out T> = this ?: emptyArray<T>()

/** Returns a *typed* array containing all of the elements of this collection. */
/** Allocates an array of runtime type `T` having its size equal to the size of this collection and populates the array with the elements of this collection. */
@sample samples.collections.Collections.Collections.collectionToTypedArray

@kotlin.internal.InlineOnly
public actual inline fun <T> Collection<T>.toArray(): Array<T> = copyToArray(this)

@JsName("copyToArray")
@PublishedApi
internal fun <T> copyToArray(collection: Collection<T>): Array<T> {
    return if (collection.asDynamic().toArray != undefined)
        collection.asDynamic().toArray().unsafeCast<Array<T>>()
    else
        copyToArrayImpl(collection).unsafeCast<Array<T>>()
}

@JsName("copyToArrayImpl")
internal actual fun copyToArrayImpl(collection: Collection<*>): Array<Any?> {
    val array = emptyArray<Any?>()
    val iterator = collection.iterator()
    while (iterator.hasNext())
        array.asDynamic().push(iterator.next())
    return array
}

@JsName("copyToExistingArrayImpl")
internal actual fun <T> copyToArrayImpl(collection: Collection<*>, array: Array<T>): Array<T> {
    if (array.size < collection.size)
        return copyToArrayImpl(collection).unsafeCast<Array<T>>()
    val iterator = collection.iterator()
    var index = 0
    while (iterator.hasNext()) {
        array[index++] = iterator.next().unsafeCast<T>()
    }
    if (index < array.size)
        array[index] = null.unsafeCast<T>()
    return array
}

/** Returns an immutable list containing only the specified object [element]. */
@kotlin.jvm.JvmName("listOf")
public fun <T> listOf(element: T): List<T> = arrayListOf(element)

@PublishedApi
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
internal actual inline fun <E> buildListInternal(builderAction: MutableList<E>().->Unit): List<E> {
    return ArrayList<E>().apply(builderAction).build()
}

@PublishedApi
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
internal actual inline fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>().->Unit): List<E> {
    checkBuilderCapacity(capacity)
    return ArrayList<E>(capacity).apply(builderAction).build()
}

/** Returns an immutable set containing only the specified object [element]. */
@kotlin.jvm.JvmName("setOf")
public fun <T> setOf(element: T): Set<T> = hashSetOf(element)

@PublishedApi
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
internal actual inline fun <E> buildSetInternal(builderAction: MutableSet<E>().->Unit): Set<E> {
    return LinkedHashSet<E>().apply(builderAction).build()
}

@PublishedApi
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
internal actual inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>().->Unit): Set<E> {
    return LinkedHashSet<E>(capacity).apply(builderAction).build()
}

/** Returns an immutable map, mapping only the specified key to the specified value. */
@kotlin.jvm.JvmName("mapOf")
public fun <K, V> mapOf(pair:

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Pair<K, V>: Map<K, V> =
hashMapOf(pair)\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninternal actual inline
fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>.( ) -> Unit): Map<K, V> {\n return
LinkedHashMap<K,
V>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\ninte
rnal actual inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>.( ) -> Unit):
Map<K, V> {\n return LinkedHashMap<K, V>(capacity).apply(builderAction).build()\n}\n\n/**\n * Fills the
list with the provided [value].\n * Each element in the list gets replaced with the [value].\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.fill(value: T): Unit {\n for (index in
0..lastIndex) {\n this[index] = value\n }\n}\n\n/**\n * Randomly shuffles elements in this list.\n *\n@See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/**\n *
Returns a new list with the elements of this list randomly shuffled.\n *\n@SinceKotlin("1.2")\npublic actual fun
<T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/**\n * Sorts elements in the list in-
place according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n *\n * @sample samples.collections.Collections.Sorting.sortMutableList\n
*\npublic actual fun <T : Comparable<T>> MutableList<T>.sort(): Unit {\n collectionsSort(this,
naturalOrder())\n}\n\n/**\n * Sorts elements in the list in-place according to the order specified with [comparator].\n
*\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n
*\n * @sample samples.collections.Collections.Sorting.sortMutableListWith\n *\npublic actual fun <T>
MutableList<T>.sortWith(comparator: Comparator<in T>): Unit {\n collectionsSort(this,
comparator)\n}\n\nprivate fun <T> collectionsSort(list: MutableList<T>, comparator: Comparator<in T>) {\n if
(list.size <= 1) return\n\n val array = copyToArray(list)\n sortArrayWith(array, comparator)\n\n for (i in 0 until
array.size) {\n list[i] = array[i]\n }\n}\n\ninternal actual fun <T> arrayOfNulls(reference: Array<T>, size: Int):
Array<T> {\n return
arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@JsName("arr
ayCopy")\ninternal fun <T> arrayCopy(source: Array<out T>, destination: Array<in T>, destinationOffset: Int,
startIndex: Int, endIndex: Int) {\n AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n val
rangeSize = endIndex - startIndex\n AbstractList.checkRangeIndexes(destinationOffset, destinationOffset +
rangeSize, destination.size)\n if (js("ArrayBuffer").isView(destination) &&
js("ArrayBuffer").isView(source)) {\n val subrange = source.asDynamic().subarray(startIndex, endIndex)\n
destination.asDynamic().set(subrange, destinationOffset)\n } else {\n if (source !== destination ||
destinationOffset <= startIndex) {\n for (index in 0 until rangeSize) {\n
destination[destinationOffset + index] = source[startIndex + index]\n }\n } else {\n for (index in
rangeSize - 1 downTo 0) {\n destination[destinationOffset + index] = source[startIndex + index]\n
}\n }\n }\n}\n\n// no singleton map implementation in js, return map as
is\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <K, V> Map<K,
V>.toSingletonMapOrSelf(): Map<K, V> = this\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline
fun <K, V> Map<out K, V>.toSingletonMap(): Map<K, V> =
this.toMutableMap()\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <T> Array<out
T>.copyToArrayOfAny(isVarargs: Boolean): Array<out Any?> =\n if (isVarargs)\n // no need to copy vararg
array in JS\n this\n else\n this.copyOf()\n\n@PublishedApi\ninternal actual fun
checkIndexOverflow(index: Int): Int {\n if (index < 0) {\n throwIndexOverflow()\n }\n return
index\n}\n\n@PublishedApi\ninternal actual fun checkCountOverflow(count: Int): Int {\n if (count < 0) {\n
throwCountOverflow()\n }\n return count\n}\n\n/**\n * JS map and set implementations do not make use of
capacities or load factors.\n *\n@PublishedApi\ninternal actual fun mapCapacity(expectedSize: Int) =
expectedSize\n\n/**\n * Checks a collection builder function capacity argument.\n * In JS no validation is made in
Map/Set constructor yet.\n *\n@SinceKotlin("1.3")\n@PublishedApi\ninternal fun

```

```

checkBuilderCapacity(capacity: Int) { \n    require(capacity >= 0) { \"capacity must be non-negative.\"
} \n} \n \n internal actual fun brittleContainsOptimizationEnabled(): Boolean = false\", \"/* \n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file. \n
* \n \n @file:kotlin.jvm.JvmMultifileClass \n @file:kotlin.jvm.JvmName(\"CollectionsKt\") \n \n package
kotlin.collections \n \n \n /** \n * Returns the given iterator itself. This allows to use an instance of iterator in a `for`
loop. \n * @sample samples.collections.Iterators.iterator \n * \n @kotlin.internal.InlineOnly \n public inline operator
fun <T> Iterator<T>.iterator(): Iterator<T> = this \n \n /** \n * Returns an [Iterator] that wraps each element produced
by the original iterator \n * into an [IndexedValue] containing the index of that element and the element itself. \n * \n
* @sample samples.collections.Iterators.withIndexIterator \n * \n public fun <T> Iterator<T>.withIndex():
Iterator<IndexedValue<T>> = IndexingIterator(this) \n \n /** \n * Performs the given [operation] on each element of
this [Iterator]. \n * @sample samples.collections.Iterators.forEachIterator \n * \n public inline fun <T>
Iterator<T>.forEach(operation: (T) -> Unit): Unit { \n    for (element in this) operation(element) \n} \n \n /** \n
* Iterator transforming original `iterator` into iterator of [IndexedValue], counting index from zero. \n * \n internal class
IndexingIterator<out T>(private val iterator: Iterator<T>) : Iterator<IndexedValue<T>> { \n    private var index =
0 \n    final override fun hasNext(): Boolean = iterator.hasNext() \n    final override fun next(): IndexedValue<T> =
IndexedValue(checkIndexOverflow(index++), iterator.next()) \n} \n\", \"/* \n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file. \n
* \n \n @file:kotlin.jvm.JvmMultifileClass \n @file:kotlin.jvm.JvmName(\"ComparisonsKt\") \n \n package
kotlin.comparisons \n \n \n // NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt \n // See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib \n \n \n import kotlin.random.* \n \n /** \n * Returns the
greater of two values. \n * \n * If values are equal, returns the first one. \n * \n @SinceKotlin(\"1.1\") \n public expect
fun <T : Comparable<T>> maxOf(a: T, b: T): T \n \n /** \n * Returns the greater of two values. \n
* \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline fun maxOf(a: Byte, b: Byte):
Byte \n \n /** \n * Returns the greater of two values. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public
expect inline fun maxOf(a: Short, b: Short): Short \n \n /** \n * Returns the greater of two values. \n
* \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline fun maxOf(a: Int, b: Int): Int \n \n
/** \n * Returns the greater of two values. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect
inline fun maxOf(a: Long, b: Long): Long \n \n /** \n * Returns the greater of two values. \n * \n * If either value is `NaN`,
returns `NaN`. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline fun maxOf(a: Float,
b: Float): Float \n \n /** \n * Returns the greater of two values. \n * \n * If either value is `NaN`, returns `NaN`. \n
* \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline fun maxOf(a: Double, b: Double):
Double \n \n /** \n * Returns the greater of three values. \n * \n * If there are multiple equal maximal values, returns the
first of them. \n * \n @SinceKotlin(\"1.1\") \n public expect fun <T : Comparable<T>> maxOf(a: T, b: T, c: T):
T \n \n /** \n * Returns the greater of three values. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public
expect inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte \n \n /** \n * Returns the greater of three values. \n
* \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline fun maxOf(a: Short, b: Short, c:
Short): Short \n \n /** \n * Returns the greater of three values. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public
expect inline fun maxOf(a: Int, b: Int, c: Int):
Int \n \n /** \n * Returns the greater of three values. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public
expect inline fun maxOf(a: Long, b: Long, c: Long): Long \n \n /** \n * Returns the greater of three values. \n * \n * If
any value is `NaN`, returns `NaN`. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline
fun maxOf(a: Float, b: Float, c: Float): Float \n \n /** \n * Returns the greater of three values. \n * \n * If any value is
`NaN`, returns `NaN`. \n * \n @SinceKotlin(\"1.1\") \n @kotlin.internal.InlineOnly \n public expect inline fun maxOf(a:
Double, b: Double, c: Double): Double \n \n /** \n * Returns the greater of three values according to the order
specified by the given [comparator]. \n * \n * If there are multiple equal maximal values, returns the first of them. \n
* \n @SinceKotlin(\"1.1\") \n public fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>): T { \n    return

```



`maxOf(a, maxOf(b, c, comparator), comparator)` Returns the greater of two values according to the order specified by the given [comparator].  
 \* If values are equal, returns the first one.  
`*\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, comparator: Comparator<in T>): T` return if (comparator.compare(a, b) >= 0) a else b  
 \* Returns the greater of the given values.  
 \* If there are multiple equal maximal values, returns the first of them.  
`*\n@SinceKotlin("1.4")\npublic expect fun <T : Comparable<T>> maxOf(a: T, vararg other: T): T` Returns the greater of the given values.  
`*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Byte, vararg other: Byte): Byte` Returns the greater of the given values.  
`*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Short, vararg other: Short): Short` Returns the greater of the given values.  
`*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Int, vararg other: Int): Int` Returns the greater of the given values.  
`*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Long, vararg other: Long): Long` Returns the greater of the given values.  
 \* If any value is `NaN`, returns `NaN`.  
`*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Float, vararg other: Float): Float` Returns the greater of the given values.  
 \* If any value is `NaN`, returns `NaN`.  
`*\n@SinceKotlin("1.4")\npublic expect fun maxOf(a: Double, vararg other: Double): Double` Returns the greater of the given values according to the order specified by the given [comparator].  
 \* If there are multiple equal maximal values, returns the first of them.  
`*\n@SinceKotlin("1.4")\npublic fun <T> maxOf(a: T, vararg other: T, comparator: Comparator<in T>): T` { var max = a for (e in other) if (comparator.compare(max, e) < 0) max = e return max  
 \* Returns the smaller of two values.  
 \* If values are equal, returns the first one.  
`*\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T): T` Returns the smaller of two values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte): Byte` Returns the smaller of two values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short): Short` Returns the smaller of two values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int): Int` Returns the smaller of two values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Long, b: Long): Long` Returns the smaller of two values.  
 \* If either value is `NaN`, returns `NaN`.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float): Float` Returns the smaller of two values.  
 \* If either value is `NaN`, returns `NaN`.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double): Double` Returns the smaller of two values.  
 \* If there are multiple equal minimal values, returns the first of them.  
`*\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T` Returns the smaller of three values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte, c: Byte): Byte` Returns the smaller of three values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short, c: Short): Short` Returns the smaller of three values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int, c: Int): Int` Returns the smaller of three values.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Long, b: Long, c: Long): Long` Returns the smaller of three values.  
 \* If any value is `NaN`, returns `NaN`.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float, c: Float): Float` Returns the smaller of three values.  
 \* If any value is `NaN`, returns `NaN`.  
`*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double, c: Double): Double` Returns the smaller of three values according to the order specified by the given [comparator].  
 \* If there are multiple equal minimal values, returns the first of them.  
`*\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, c: T, comparator: Comparator<in T>): T` { return minOf(a, minOf(b, c, comparator), comparator)  
 \* Returns the smaller of two values according to the order specified by the given [comparator].  
 \* If values are equal, returns the first one.  
`*\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, comparator: Comparator<in T>): T` { return if

```

(comparator.compare(a, b) <= 0) a else b\n}\n\n**\n * Returns the smaller of the given values.\n * \n * If there are
multiple equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.4")\npublic expect fun <T :
Comparable<T>> minOf(a: T, vararg other: T): T\n\n**\n * Returns the smaller of the given values.\n
*\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Byte, vararg other: Byte): Byte\n\n**\n * Returns the
smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Short, vararg other: Short):
Short\n\n**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a:
Int, vararg other: Int): Int\n\n**\n * Returns the smaller of the given values.\n *\n@SinceKotlin("1.4")\npublic
expect fun minOf(a: Long, vararg other: Long): Long\n\n**\n * Returns the smaller of the given values.\n * \n *
If any value is `NaN`, returns `NaN`.\n *\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Float, vararg other:
Float): Float\n\n**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n
*\n@SinceKotlin("1.4")\npublic expect fun minOf(a: Double, vararg other: Double): Double\n\n**\n * Returns
the smaller of the given values according to the order specified by the given [comparator].\n * \n * If there are
multiple equal minimal values, returns the first of them.\n *\n@SinceKotlin("1.4")\npublic fun <T> minOf(a: T,
vararg other: T, comparator: Comparator<in T>): T {\n    var min = a\n    for (e in other) if
(comparator.compare(min, e) > 0) min = e\n    return min\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n**\n * Returns the first non-null value produced by
[transform] function being applied to entries of this map in iteration order,\n * or throws
[NoSuchElementException] if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Any> Map<out K,
V>.firstNotNullOf(transform: (Map.Entry<K, V>) -> R?): R {\n    return firstNotNullOfOrNull(transform) ?: throw
NoSuchElementException("No element of the map was transformed to a non-null value.")\n}\n\n**\n * Returns
the first non-null value produced by [transform] function being applied to entries of this map in iteration order,\n *
or `null` if no non-null value was produced.\n * \n * @sample
samples.collections.Collections.Transformations.firstNotNullOf\n
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Any> Map<out K,
V>.firstNotNullOfOrNull(transform: (Map.Entry<K, V>) -> R?): R? {\n    for (element in this) {\n        val result =
transform(element)\n        if (result != null) {\n            return result\n        }\n    }\n    return null\n}\n\n**\n *
Returns a [List] containing all key-value pairs.\n *\npublic fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>>
{\n    if (size == 0)\n        return emptyList()\n    val iterator = entries.iterator()\n    if (!iterator.hasNext())\n        return emptyList()\n    val first = iterator.next()\n    if (!iterator.hasNext())\n        return listOf(first.toPair())\n    val
result = ArrayList<Pair<K, V>>(size)\n    result.add(first.toPair())\n    do {\n        result.add(iterator.next().toPair())\n    } while (iterator.hasNext())\n    return result\n}\n\n**\n * Returns a single list
of all elements yielded from results of [transform] function being invoked on each entry of original map.\n * \n *
@sample samples.collections.Maps.Transformations.flatMap\n *\npublic inline fun <K, V, R> Map<out K,
V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each entry of original map.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapSequence")\npublic inline fun <K, V, R> Map<out K,
V>.flatMap(transform: (Map.Entry<K, V>) -> Sequence<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n**\n * Appends all elements yielded from results of [transform] function being invoked on each
entry of original map, to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>>

```

```

Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {
    for (element in this) {
        val list = transform(element)
        destination.addAll(list)
    }
    return destination
}

Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination].

*Since Kotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolutionByLambdaReturnType@kotlin.jvm.JvmName("flatMapSequenceTo")public inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Sequence<R>): C {
    for (element in this) {
        val list = transform(element)
        destination.addAll(list)
    }
    return destination
}

Returns a list containing the results of applying the given [transform] function to each entry in the original map.

@sample
samples.collections.Maps.Transformations.mapToList

public inline fun <K, V, R> Map<out K, V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {
    return mapTo(ArrayList<R>(size), transform)
}

Returns a list containing only the non-null results of applying the given [transform] function to each entry in the original map.

@sample
samples.collections.Maps.Transformations.mapNotNull

public inline fun <K, V, R : Any> Map<out K, V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

Applies the given [transform] function to each entry in the original map and appends only the non-null results to the given [destination].

public inline fun <K, V, R : Any, C : MutableCollection<in R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>) -> R?): C {
    forEach { element -> transform(element)?.let { destination.add(it) } }
    return destination
}

Applies the given [transform] function to each entry of the original map and appends the results to the given [destination].

public inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.mapTo(destination: C, transform: (Map.Entry<K, V>) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

Returns `true` if all entries match the given [predicate].

@sample
samples.collections.Collections.Aggregates.all

public inline fun <K, V> Map<out K, V>.all(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {
    if (isEmpty()) return true
    for (element in this) if (!predicate(element)) return false
    return true
}

Returns `true` if map has at least one entry.

@sample
samples.collections.Collections.Aggregates.any

public fun <K, V> Map<out K, V>.any(): Boolean {
    return !isEmpty()
}

Returns `true` if at least one entry matches the given [predicate].

@sample
samples.collections.Collections.Aggregates.anyWithPredicate

public inline fun <K, V> Map<out K, V>.any(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {
    if (isEmpty()) return false
    for (element in this) if (predicate(element)) return true
    return false
}

Returns the number of entries in this map.

@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.count(): Int {
    return size
}

Returns the number of entries matching the given [predicate].

public inline fun <K, V> Map<out K, V>.count(predicate: (Map.Entry<K, V>) -> Boolean): Int {
    if (isEmpty()) return 0
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}

Performs the given [action] on each entry.

@kotlin.internal.HidesMembers
public inline fun <K, V> Map<out K, V>.forEach(action: (Map.Entry<K, V>) -> Unit): Unit {
    for (element in this) action(element)
}

@Deprecated("Use maxByOrNull instead.", ReplaceWith("this.maxByOrNull(selector)"))
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")
@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {
    return maxByOrNull(selector)
}

Returns the first entry yielding the largest value of the given function or `null` if there are no entries.

@sample
samples.collections.Collections.Aggregates.maxByOrNull

*Since Kotlin("1.4")@kotlin.internal.InlineOnly
public inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {
    return entries.maxByOrNull(selector)
}

Returns the largest value among all values produced by [selector] function applied to each entry in the map.

If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws NoSuchElementException if the map is empty.

```

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> Double): Double {\n return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> Float): Float {\n return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> R): R {\n return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.maxOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n return entries.maxOfWith(comparator, selector)\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map or `null` if there are no entries.\n`

`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n return entries.maxOfWithOrNull(comparator, selector)\n}\n\n@Deprecated("Use maxWithOrNull instead.")\nReplaceWith("this.maxWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5", hiddenSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first entry having the largest value according to the provided [comparator] or `null` if there are no entries.\n *\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxWithOrNull(comparator: Comparator<in Map.Entry<K, V>>):`

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Map.Entry<K, V>? {\n    return entries.maxWithOrNull(comparator)\n}\n\n@Deprecated("\nUse minByOrNull\ninstead.\n", ReplaceWith("\nthis.minByOrNull(selector)\n"))\n@DeprecatedSinceKotlin(warningSince = "\n1.4\n",\n    errorSince = "\n1.5\n", hiddenSince = "\n1.6\n")\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\n    V>.minBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first entry yielding the smallest value of the given function or `null` if there are no entries.\n * \n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n *\n */\n@SinceKotlin("\n1.4\n")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out\n    K, V>.minByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n    return\n    entries.minByOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]\n * function\n * applied to each entry in the map.\n * \n * \n * If any of values produced by [selector] function is `NaN`, the\n * returned result is `NaN`.\n * \n * \n * @throws NoSuchElementException if the map is empty.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector:\n    (Map.Entry<K, V>) -> Double): Double {\n    return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest\n * value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * \n * If any of values\n * produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * \n * @throws NoSuchElementException\n * if the map is empty.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector:\n    (Map.Entry<K, V>) -> Float): Float {\n    return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value\n * among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * \n * @throws\n * NoSuchElementException if the map is empty.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\n    V>.minOf(selector: (Map.Entry<K, V>) -> R): R {\n    return entries.minOf(selector)\n}\n\n/**\n * Returns the\n * smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if\n * there are no entries.\n * \n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\n    V>.minOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n    return\n    entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]\n * function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * \n * If any of values produced by\n * [selector] function is `NaN`, the returned result is `NaN`.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,\n    V>.minOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n    return\n    entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector]\n * function\n * applied to each entry in the map or `null` if there are no entries.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K,\n    V>.minOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n    return entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]\n * function applied to each entry in the map.\n * \n * \n * @throws NoSuchElementException if the map is empty.\n *\n */\n@SinceKotlin("\n1.4\n")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\n    ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,\n    V>.minOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n    return\n    entries.minOfWith(comparator, selector)\n}\n\n/**\n * Returns the smallest value according to the provided\n * [comparator]\n * among all values produced by [selector] function applied to each entry in the map or `null` if there
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are no entries.

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.minOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n    return\n    entries.minOfWithOrNull(comparator, selector)\n}\n\n@Deprecated("Use minWithOrNull instead.",\n    ReplaceWith("this.minWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",\n    hiddenSince = "1.6")\npublic fun <K, V> Map<out K, V>.minWith(comparator: Comparator<in\n    Map.Entry<K, V>>): Map.Entry<K, V>? {\n    return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first entry having the smallest value according to the provided [comparator] or `null` if there are no entries.\n */\n*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minWithOrNull(comparator: Comparator<in\n    Map.Entry<K, V>>): Map.Entry<K, V>? {\n    return\n    entries.minWithOrNull(comparator)\n}\n\n/**\n * Returns `true` if the map has no entries.\n */\n * @sample\n    samples.collections.Collections.Aggregates.none\n */\npublic fun <K, V> Map<out K, V>.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no entries match the given [predicate].\n */\n * @sample\n    samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <K, V> Map<out K, V>.none(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n    if (isEmpty()) return true\n    for (element in this) if (predicate(element)) return false\n    return true\n}\n\n/**\n * Performs the given [action] on each entry and returns the map itself afterwards.\n */\n*\n@SinceKotlin("1.1")\npublic inline fun <K, V, M : Map<out K, V>> M.onEach(action: (Map.Entry<K, V>) -> Unit): M {\n    return apply { for (element in this) action(element)\n    }\n}\n\n/**\n * Performs the given [action] on each entry, providing sequential index with the entry,\n * and returns the map itself afterwards.\n */\n * @param [action] function that takes the index of an entry and the entry itself\n * and performs the action on the entry.\n */\n*\n@SinceKotlin("1.4")\npublic inline fun <K, V, M : Map<out K, V>> M.onEachIndexed(action: (index: Int, Map.Entry<K, V>) -> Unit): M {\n    return apply {\n        entries.forEachIndexed(action)\n    }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original map returning its entries when being iterated.\n */\n*\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.asIterable(): Iterable<Map.Entry<K, V>> {\n    return entries\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original map returning its entries when being iterated.\n */\n */\npublic fun <K, V> Map<out K, V>.asSequence(): Sequence<Map.Entry<K, V>> {\n    return entries.asSequence()\n}\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n    license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n// 10 mappings totally\n\ninternal fun\n    Char.titlecaseImpl(): String {\n        val uppercase = uppercase()\n        if (uppercase.length > 1) {\n            return if (this == '\u0149') uppercase else uppercase[0] + uppercase.substring(1).lowercase()\n        }\n        return\n        titlecaseChar().toString()\n    }\n\n"/\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n    license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the invariant locale.\n */\n*\n@Deprecated("Use lowercaseChar() instead.",\n    ReplaceWith("lowercaseChar()"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.toLowerCase(): Char =\n    lowercaseChar()\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the invariant locale.\n */\n * This function performs one-to-one character mapping.\n * To support one-to-many character mapping use the [lowercase] function.\n * If this character has no mapping equivalent, the character itself is returned.\n */\n * @sample samples.text.Chars.lowercase\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic\n    c actual inline fun Char.lowercaseChar(): Char = lowercase()[0]\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the invariant locale.\n */\n * This function supports one-to-many character mapping, thus the length of the returned string can be greater than one.\n * For example, ``\u0130'.lowercase()`` returns
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`"\u0069\u0307",\n * where `"\u0130` is the LATIN CAPITAL LETTER I WITH DOT ABOVE character
(`\u0130`).\n * If this character has no lower case mapping, the result of `toString()` of this char is returned.\n *\n *
@sample samples.text.Chars.lowercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c actual inline fun Char.lowercase(): String = toString().asDynamic().toLowerCase().unsafeCast<String>()\n\n**\n
* Converts this character to upper case using Unicode mapping rules of the invariant locale.\n
*\n@Deprecated("Use uppercaseChar() instead.",
ReplaceWith("uppercaseChar()"))\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.toUpperCase(): Char =
uppercaseChar()\n\n**\n * Converts this character to upper case using Unicode mapping rules of the invariant
locale.\n *\n * This function performs one-to-one character mapping.\n * To support one-to-many character
mapping use the [uppercase] function.\n * If this character has no mapping equivalent, the character itself is
returned.\n *\n * @sample samples.text.Chars.uppercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Char.toUpperCaseChar(): Char {\n    val uppercase = uppercase()\n    return if (uppercase.length > 1) this else
uppercase[0]\n}\n\n**\n * Converts this character to upper case using Unicode mapping rules of the invariant
locale.\n *\n * This function supports one-to-many character mapping, thus the length of the returned string can be
greater than one.\n * For example, `"\uFB00".uppercase()` returns `"\u0046\u0046"`,\n * where `"\uFB00` is the
LATIN SMALL LIGATURE FF character (`\ufb00`).\n * If this character has no upper case mapping, the result of
`toString()` of this char is returned.\n *\n * @sample samples.text.Chars.uppercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c actual inline fun Char.toUpperCase(): String = toString().asDynamic().toUpperCase().unsafeCast<String>()\n\n**\n
* Converts this character to title case using Unicode mapping rules of the invariant locale.\n *\n * This function
performs one-to-one character mapping.\n * To support one-to-many character mapping use the [titlecase]
function.\n * If this character has no mapping equivalent, the result of calling [uppercaseChar] is returned.\n *\n *
@sample samples.text.Chars.titlecase\n
*\n@SinceKotlin("1.5")\npublic actual fun Char.titlecaseChar(): Char =
titlecaseCharImpl()\n\n**\n * Returns `true` if this character is a Unicode high-surrogate code unit (also known as
leading-surrogate code unit).\n *\npublic actual fun Char.isHighSurrogate(): Boolean = this in
Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n**\n * Returns `true` if this character is a
Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n *\npublic actual fun
Char.isLowSurrogate(): Boolean = this in
Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n\n**\n * Returns the Unicode general
category of this character.\n *\n@SinceKotlin("1.5")\npublic actual val Char.category: CharCategory\n    get() =
CharCategory.valueOf(getCategoryValue())\n\n**\n * Returns `true` if this character (Unicode code point) is
defined in Unicode.\n *\n * A character is considered to be defined in Unicode if its [category] is not
[CharCategory.UNASSIGNED].\n *\n@SinceKotlin("1.5")\npublic actual fun Char.isDefined(): Boolean {\n    if
(this < "\u0080") {\n        return true\n    }\n    return getCategoryValue() !=
CharCategory.UNASSIGNED.value\n}\n\n**\n * Returns `true` if this character is a letter.\n *\n * A character is
considered to be a letter if its [category] is [CharCategory.UPPERCASE_LETTER],\n *\n *
[CharCategory.LOWERCASE_LETTER], [CharCategory.TITLECASE_LETTER],
[CharCategory.MODIFIER_LETTER], or [CharCategory.OTHER_LETTER].\n *\n * @sample
samples.text.Chars.isLetter\n
*\n@SinceKotlin("1.5")\npublic actual fun Char.isLetter(): Boolean {\n    if (this in
'a..'z' || this in 'A..'Z') {\n        return true\n    }\n    if (this < "\u0080") {\n        return false\n    }\n    return
isLetterImpl()\n}\n\n**\n * Returns `true` if this character is a letter or digit.\n *\n * @see isLetter\n * @see
isDigit\n *\n * @sample samples.text.Chars.isLetterOrDigit\n
*\n@SinceKotlin("1.5")\npublic actual fun
Char.isLetterOrDigit(): Boolean {\n    if (this in 'a..'z' || this in 'A..'Z' || this in '0..'9') {\n        return true\n    }\n    if
(this < "\u0080") {\n        return false\n    }\n    return isDigitImpl() || isLetterImpl()\n}\n\n**\n * Returns `true` if
this character is a digit.\n *\n * A character is considered to be a digit if its [category] is

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[CharCategory.DECIMAL_DIGIT_NUMBER].\n *\n * @sample samples.text.Chars.isDigit\n
*\n@SinceKotlin("1.5")\npublic actual fun Char.isDigit(): Boolean {\n if (this in '0'..'9') {\n return true\n
}\n if (this < "\u0080") {\n return false\n }\n return isDigitImpl()\n}\n\n/**\n * Returns `true` if this
character is upper case.\n *\n * A character is considered to be an upper case character if its [category] is
[CharCategory.UPPERCASE_LETTER],\n * or it has contributory property `Other_Uppercase` as defined by the
Unicode Standard.\n *\n * @sample samples.text.Chars.isUpperCase\n *\n@SinceKotlin("1.5")\npublic actual fun
Char.isUpperCase(): Boolean {\n if (this in 'A'..'Z') {\n return true\n }\n if (this < "\u0080") {\n return
false\n }\n return isUpperCaseImpl()\n}\n\n/**\n * Returns `true` if this character is lower case.\n *\n * A
character is considered to be a lower case character if its [category] is [CharCategory.LOWERCASE_LETTER],\n *
or it has contributory property `Other_Lowercase` as defined by the Unicode Standard.\n *\n * @sample
samples.text.Chars.isLowerCase\n *\n@SinceKotlin("1.5")\npublic actual fun Char.isLowerCase(): Boolean {\n
if (this in 'a'..'z') {\n return true\n }\n if (this < "\u0080") {\n return false\n }\n return
isLowerCaseImpl()\n}\n\n/**\n * Returns `true` if this character is a title case letter.\n *\n * A character is
considered to be a title case letter if its [category] is [CharCategory.TITLECASE_LETTER].\n *\n * @sample
samples.text.Chars.isTitleCase\n *\n@SinceKotlin("1.5")\npublic actual fun Char.isTitleCase(): Boolean {\n if
(this < "\u0080") {\n return false\n }\n return getCategoryValue() ==
CharCategory.TITLECASE_LETTER.value\n}\n\n/**\n * Returns `true` if this character is an ISO control
character.\n *\n * A character is considered to be an ISO control character if its [category] is
[CharCategory.CONTROL],\n * meaning the Char is in the range `'\u0000'..'u001F'` or in the range
`'\u007F'..'u009F'.\n *\n * @sample samples.text.Chars.isISOControl\n *\n@SinceKotlin("1.5")\npublic actual
fun Char.isISOControl(): Boolean {\n return this <= '\u001F' || this in '\u007F'..'u009F'\n}\n\n/**\n *
Determines whether a character is whitespace according to the Unicode standard.\n * Returns `true` if the character
is whitespace.\n *\n * @sample samples.text.Chars.isWhitespace\n *\npublic actual fun Char.isWhitespace():
Boolean = isWhitespaceImpl(),"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n@package kotlin.text\nimport kotlin.js.RegExp\n\n/**\n * Converts the characters
in the specified array to a string.\n *\n@SinceKotlin("1.2")\n@Deprecated("Use CharArray.concatToString()
instead", ReplaceWith("chars.concatToString()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5")\npublic actual fun String(chars: CharArray): String {\n var result = ""\n for (char in chars) {\n
result += char\n }\n return result\n}\n\n/**\n * Converts the characters from a portion of the specified array to a
string.\n *\n * @throws IndexOutOfBoundsException if either [offset] or [length] are less than zero\n * or `offset +
length` is out of [chars] array bounds.\n *\n@SinceKotlin("1.2")\n@Deprecated("Use
CharArray.concatToString(startIndex, endIndex) instead", ReplaceWith("chars.concatToString(offset, offset +
length)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5")\npublic actual fun String(chars:
CharArray, offset: Int, length: Int): String {\n if (offset < 0 || length < 0 || chars.size - offset < length)\n
throw IndexOutOfBoundsException("size: ${chars.size}; offset: $offset; length: $length")\n var result = ""\n
for (index in offset until offset + length) {\n result += chars[index]\n }\n return result\n}\n\n/**\n *
Concatenates characters in this [CharArray] into a String.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
CharArray.concatToString(): String {\n var result = ""\n for (char in this) {\n result += char\n }\n
return result\n}\n\n/**\n * Concatenates characters in this [CharArray] or its subrange into a String.\n *\n * @param
startIndex the beginning (inclusive) of the subrange of characters, 0 by default.\n * @param endIndex the end
(exclusive) of the subrange of characters, size of this array by default.\n *\n * @throws
IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun CharArray.concatToString(startIndex: Int = 0,
endIndex: Int = this.size): String {\n AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n var

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result = ""
for (index in startIndex until endIndex) {
    result += this[index]
}
return result
}

/**
 * Returns a [CharArray] containing characters of this string.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun String.toCharArray(): CharArray {
    return CharArray(length) { get(it) }
}

/**
 * Returns a [CharArray] containing characters of this string or its substring.
 * @param startIndex the beginning (inclusive) of the substring, 0 by default.
 * @param endIndex the end (exclusive) of the substring, length of this string by default.
 * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.
 * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun String.toCharArray(startIndex: Int = 0, endIndex: Int = this.length): CharArray {
    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)
    return CharArray(endIndex - startIndex) { get(startIndex + it) }
}

/**
 * Decodes a string from the bytes in UTF-8 encoding in this array.
 * Malformed byte sequences are replaced by the replacement char '\uFFFD'.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun ByteArray.decodeToString(): String {
    return decodeUtf8(this, 0, size, false)
}

/**
 * Decodes a string from the bytes in UTF-8 encoding in this array or its subrange.
 * @param startIndex the beginning (inclusive) of the subrange to decode, 0 by default.
 * @param endIndex the end (exclusive) of the subrange to decode, size of this array by default.
 * @param throwOnInvalidSequence specifies whether to throw an exception on malformed byte sequence or replace it by the replacement char '\uFFFD'.
 * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.
 * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].
 * @throws CharacterCodingException if the byte array contains malformed UTF-8 byte sequence and [throwOnInvalidSequence] is true.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun ByteArray.decodeToString(startIndex: Int = 0, endIndex: Int = this.size, throwOnInvalidSequence: Boolean = false): String {
    AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)
    return decodeUtf8(this, startIndex, endIndex, throwOnInvalidSequence)
}

/**
 * Encodes this string to an array of bytes in UTF-8 encoding.
 * Any malformed char sequence is replaced by the replacement byte sequence.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public actual fun String.encodeToByteArray(): ByteArray {
    return encodeUtf8(this, 0, length, false)
}

/**
 * Encodes this string or its substring to an array of bytes in UTF-8 encoding.
 * @param startIndex the beginning (inclusive) of the substring to encode, 0 by default.
 * @param endIndex the end (exclusive) of the substring to encode, length of this string by default.
 * @param throwOnInvalidSequence specifies whether to throw an exception on malformed char sequence or replace.
 * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.
 * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].
 * @throws CharacterCodingException if this string contains malformed char sequence and [throwOnInvalidSequence] is true.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")
public actual fun String.encodeToByteArray(startIndex: Int = 0, endIndex: Int = this.length, throwOnInvalidSequence: Boolean = false): ByteArray {
    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)
    return encodeUtf8(this, startIndex, endIndex, throwOnInvalidSequence)
}

/**
 * Returns a copy of this string converted to upper case using the rules of the default locale.
 * @Deprecated("Use uppercase() instead.")
 */
@DeprecatedSinceKotlin(warningSince = "1.5")
@kotlin.internal.InlineOnly
public actual inline fun String.toUpperCase(): String =
    asDynamic().toUpperCase()

/**
 * Returns a copy of this string converted to upper case using Unicode mapping rules of the invariant locale.
 * This function supports one-to-many and many-to-one character mapping, thus the length of the returned string can be different from the length of the original string.
 * @sample
 */

```

```

samples.text.Strings.uppercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
actual inline fun String.uppercase(): String = asDynamic().toUpperCase()\n\n**\n * Returns a copy of this string
converted to lower case using the rules of the default locale.\n *\n@Deprecated("Use lowercase() instead.",
ReplaceWith("lowercase()"))\n@DeprecatedSinceKotlin(warningSince =
"1.5")\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toLowerCase(): String =
asDynamic().toLowerCase()\n\n**\n * Returns a copy of this string converted to lower case using Unicode
mapping rules of the invariant locale.\n *\n * This function supports one-to-many and many-to-one character
mapping,\n * thus the length of the returned string can be different from the length of the original string.\n *\n *
@sample samples.text.Strings.lowercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
actual inline fun String.lowercase(): String = asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\ninternal
actual inline fun String.nativeIndexOf(str: String, fromIndex: Int): Int = asDynamic().indexOf(str,
fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(str: String,
fromIndex: Int): Int = asDynamic().lastIndexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal inline fun
String.nativeStartsWith(s: String, position: Int): Boolean = asDynamic().startsWith(s,
position)\n\n@kotlin.internal.InlineOnly\ninternal inline fun String.nativeEndsWith(s: String): Boolean =
asDynamic().endsWith(s)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun String.substring(startIndex: Int):
String = asDynamic().substring(startIndex)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex,
endIndex)\n\n@Deprecated("Use String.plus() instead", ReplaceWith("this +
str"))\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@kotlin.internal.InlineOnly\npublic inline fun
String.concat(str: String): String = asDynamic().concat(str)\n\n@Deprecated("Use Regex.findAll() instead or
invoke matches() on String dynamically:
this.asDynamic().match(regex)")\n@DeprecatedSinceKotlin(warningSince =
"1.6")\n@kotlin.internal.InlineOnly\npublic inline fun String.match(regex: String): Array<String>? =
asDynamic().match(regex)\n\n//native public fun String.trim(): String\n//TODO: String.replace to implement
effective trimLeading and trimTrailing\n\n@kotlin.internal.InlineOnly\ninternal inline fun
String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern,
replacement)\n\n**\n * Compares two strings lexicographically, optionally ignoring case differences.\n *\n * If
[ignoreCase] is true, the result of `Char.toUpperCaseChar().toLowerCaseChar()` on each character is compared.\n
*\n@SinceKotlin("1.2")\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic
actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n    if (ignoreCase) {\n        val n1 =
this.length\n        val n2 = other.length\n        val min = minOf(n1, n2)\n        if (min == 0) return n1 - n2\n        for
(index in 0 until min) {\n            var thisChar = this[index]\n            var otherChar = other[index]\n\n            if
(thisChar != otherChar) {\n                thisChar = thisChar.toUpperCaseChar()\n                otherChar =
otherChar.toUpperCaseChar()\n\n                if (thisChar != otherChar) {\n                    thisChar =
thisChar.toLowerCaseChar()\n                    otherChar = otherChar.toLowerCaseChar()\n\n                    if (thisChar !=
otherChar) {\n                        return thisChar.compareTo(otherChar)\n                    }\n                }\n            }\n        }\n        return n1 - n2\n    } else {\n        return compareTo(other)\n    }\n}\n\n**\n * Returns `true` if the contents
of this char sequence are equal to the contents of the specified [other],\n * i.e. both char sequences contain the same
number of the same characters in the same order.\n *\n * @sample samples.text.Strings.contentEquals\n
*\n@SinceKotlin("1.5")\npublic actual infix fun CharSequence?.contentEquals(other: CharSequence?): Boolean =
contentEqualsImpl(other)\n\n**\n * Returns `true` if the contents of this char sequence are equal to the contents of
the specified [other], optionally ignoring case difference.\n *\n * @param ignoreCase `true` to ignore character case
when comparing contents.\n *\n * @sample samples.text.Strings.contentEquals\n\n@SinceKotlin("1.5")\npublic
actual fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean {\n    return if
(ignoreCase)\n        this.contentEqualsIgnoreCaseImpl(other)\n    else\n

```

```

this.contentEqualsImpl(other)\n}\n\nprivate val STRING_CASE_INSENSITIVE_ORDER = Comparator<String>
{ a, b -> a.compareTo(b, ignoreCase = true) }\n\n@SinceKotlin("1.2")\npublic actual val
String.Companion.CASE_INSENSITIVE_ORDER: Comparator<String>\n  get() =
STRING_CASE_INSENSITIVE_ORDER\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CharsKt")\n\npackage kotlin.text\n\n/**\n * Returns the numeric value of the decimal digit that this Char represents.\n * Throws an exception if this Char is
not a valid decimal digit.\n * A Char is considered to represent a decimal digit if [isDigit] is true for the Char.\n
* In this case, the Unicode decimal digit value of the character is returned.\n * @sample
samples.text.Chars.digitToInt\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Char.digitToInt(): Int
{\n  return digitOf(this, 10).also {\n    if (it < 0) throw IllegalArgumentException("Char $this is not a decimal
digit")\n  }\n}\n\n/**\n * Returns the numeric value of the digit that this Char represents in the specified [radix].\n
* Throws an exception if the [radix] is not in the range `2..36` or if this Char is not a valid digit in the specified
[radix].\n * A Char is considered to represent a digit in the specified [radix] if at least one of the following is
true:\n * - [isDigit] is `true` for the Char and the Unicode decimal digit value of the character is less than the
specified [radix]. In this case the decimal digit value is returned.\n * - The Char is one of the uppercase Latin letters
'A' through 'Z' and its [code] is less than `radix + 'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is
returned.\n * - The Char is one of the lowercase Latin letters 'a' through 'z' and its [code] is less than `radix +
'a'.code - 10`. In this case, `this.code - 'a'.code + 10` is returned.\n * - The Char is one of the fullwidth Latin
capital letters '\uFF21' through '\uFF3A' and its [code] is less than `radix + 0xFF21 - 10`. In this case, `this.code
- 0xFF21 + 10` is returned.\n * - The Char is one of the fullwidth Latin small letters '\uFF41' through '\uFF5A' and
its [code] is less than `radix + 0xFF41 - 10`. In this case, `this.code - 0xFF41 + 10` is returned.\n * @sample
samples.text.Chars.digitToInt\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Char.digitToInt(radix:
Int): Int {\n  return digitToIntOrNull(radix) ?: throw IllegalArgumentException("Char $this is not a digit in the
given radix=$radix")\n}\n\n/**\n * Returns the numeric value of the decimal digit that this Char represents, or
`null` if this Char is not a valid decimal digit.\n * A Char is considered to represent a decimal digit if [isDigit]
is true for the Char.\n * In this case, the Unicode decimal digit value of the character is returned.\n * @sample
samples.text.Chars.digitToIntOrNull\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(): Int? {\n  return digitOf(this, 10).takeIf { it >= 0 }\n}\n\n/**\n * Returns the numeric
value of the digit that this Char represents in the specified [radix], or `null` if this Char is not a valid digit in the
specified [radix].\n * Throws an exception if the [radix] is not in the range `2..36`.\n * A Char is considered to
represent a digit in the specified [radix] if at least one of the following is true:\n * - [isDigit] is `true` for the
Char and the Unicode decimal digit value of the character is less than the specified [radix]. In this case the decimal
digit value is returned.\n * - The Char is one of the uppercase Latin letters 'A' through 'Z' and its [code] is less
than `radix + 'A'.code - 10`. In this case, `this.code - 'A'.code + 10` is returned.\n * - The Char is one of the
lowercase Latin letters 'a' through 'z' and its [code] is less than `radix + 'a'.code - 10`. In this case, `this.code
- 'a'.code + 10` is returned.\n * - The Char is one of the fullwidth Latin capital letters '\uFF21' through '\uFF3A'
and its [code] is less than `radix + 0xFF21 - 10`. In this case, `this.code - 0xFF21 + 10` is returned.\n * - The
Char is one of the fullwidth Latin small letters '\uFF41' through '\uFF5A' and its [code] is less than `radix +
0xFF41 - 10`. In this case, `this.code - 0xFF41 + 10` is returned.\n * @sample samples.text.Chars.digitToIntOrNull\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Char.digitToIntOrNull(radix: Int): Int? {\n  checkRadix(radix)\n  return digitOf(this, radix).takeIf { it >= 0
}\n}\n\n/**\n * Returns the Char that represents this decimal digit.\n * Throws an exception if this value is not in the
range `0..9`.\n * If this value is in `0..9`, the decimal digit Char with code `0'.code + this` is returned.\n * @
sample

```

```

@sample samples.text.Chars.digitToChar\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Int.digitToChar(): Char
{\n if (this in 0..9) {\n return '0' + this\n } \n throw IllegalArgumentException("\nInt $this is not a decimal
digit")\n}\n\n/**\n * Returns the Char that represents this numeric digit value in the specified [radix].\n * Throws
an exception if the [radix] is not in the range `2..36` or if this value is not in the range `0 until radix`. \n * \n * If this
value is less than `10`, the decimal digit Char with code `0'.code + this` is returned.\n * Otherwise, the uppercase
Latin letter with code `A'.code + this - 10` is returned.\n * \n * @sample samples.text.Chars.digitToChar\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun Int.digitToChar(radix:
Int): Char {\n if (radix !in 2..36) {\n throw IllegalArgumentException("Invalid radix: $radix. Valid radix
values are in range 2..36")\n } \n if (this < 0 || this >= radix) {\n throw IllegalArgumentException("Digit
$this does not represent a valid digit in radix $radix")\n } \n return if (this < 10) {\n '0' + this\n } else {\n
'A' + this - 10\n } \n}\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the
invariant locale.\n * \n * @Deprecated("Use lowercaseChar() instead."),
ReplaceWith("lowercaseChar()")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic expect fun
Char.toLowerCase(): Char\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the
invariant locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many
character mapping use the [lowercase] function.\n * If this character has no mapping equivalent, the character itself
is returned.\n * \n * @sample samples.text.Chars.lowercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.lowercaseChar(): Char\n\n/**\n * Converts this character to lower case using Unicode mapping rules of the
invariant locale.\n * \n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.\n * For example, `'\u0130'.lowercase()` returns `'\u0069\u0307'`, \n * where
`'\u0130` is the LATIN CAPITAL LETTER I WITH DOT ABOVE character (`\ufffd\uuffd`).\n * If this character
has no lower case mapping, the result of `toString()` of this char is returned.\n * \n * @sample
samples.text.Chars.lowercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.lowercase(): String\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.\n * \n * @Deprecated("Use uppercaseChar() instead."),
ReplaceWith("uppercaseChar()")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic expect fun
Char.toUpperCase(): Char\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many
character mapping use the [uppercase] function.\n * If this character has no mapping equivalent, the character itself
is returned.\n * \n * @sample samples.text.Chars.uppercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.uppercaseChar(): Char\n\n/**\n * Converts this character to upper case using Unicode mapping rules of the
invariant locale.\n * \n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.\n * For example, `'\uFB00'.uppercase()` returns `'\u0046\u0046'`, \n * where
`'\uFB00` is the LATIN SMALL LIGATURE FF character (`\ufffd\uuffd\uuffd`).\n * If this character has no upper
case mapping, the result of `toString()` of this char is returned.\n * \n * @sample samples.text.Chars.uppercase\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Char.uppercase(): String\n\n/**\n * Converts this character to title case using Unicode mapping rules of the
invariant locale.\n * \n * This function performs one-to-one character mapping.\n * To support one-to-many
character mapping use the [titlecase] function.\n * If this character has no mapping equivalent, the result of calling
[uppercaseChar] is returned.\n * \n * @sample samples.text.Chars.titlecase\n
*\n@SinceKotlin("1.5")\npublic expect fun Char.titlecaseChar(): Char\n\n/**\n * Converts this character to title case using Unicode mapping rules of
the invariant locale.\n * \n * This function supports one-to-many character mapping, thus the length of the returned
string can be greater than one.\n * For example, `'\uFB00'.titlecase()` returns `'\u0046\u0066'`, \n * where
`'\uFB00` is the LATIN SMALL LIGATURE FF character (`\ufffd\uuffd\uuffd`).\n * If this character has no title

```

case mapping, the result of [uppercase] is returned instead.

```

@sample samples.text.Chars.titlecase
public fun Char.titlecase(): String = titlecaseImpl()

```

Concatenates this Char and a String.

```

@sample samples.text.Chars.plus
@kotlin.internal.InlineOnly
public inline operator fun Char.plus(other: String): String = this.toString() + other

```

Returns `true` if this character is equal to the [other] character, optionally ignoring character case. Two characters are considered equal ignoring case if `Char.toUpperCaseChar().toLowerCaseChar()` on each character produces the same result.

```

@param ignoreCase `true` to ignore character case when comparing characters. By default `false`.
@sample samples.text.Chars.equals
public fun Char.equals(other: Char, ignoreCase: Boolean = false): Boolean {
    if (this == other) return true
    if (!ignoreCase) return false
    val thisUpper = this.toUpperCaseChar()
    val otherUpper = other.toUpperCaseChar()
    return thisUpper == otherUpper || thisUpper.toLowerCaseChar() == otherUpper.toLowerCaseChar()
}

```

Returns `true` if this character is a Unicode surrogate code unit.

```

public fun Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE

```

Returns the Unicode general category of this character.

```

@SinceKotlin("1.5")
public expect val Char.category: CharCategory

```

Returns `true` if this character (Unicode code point) is defined in Unicode.

A character is considered to be defined in Unicode if its [category] is not [CharCategory.UNASSIGNED].

```

@SinceKotlin("1.5")
public expect fun Char.isDefined(): Boolean

```

Returns `true` if this character is a letter.

A character is considered to be a letter if its [category] is [CharCategory.UPPERCASE\_LETTER], [CharCategory.LOWERCASE\_LETTER], [CharCategory.TITLECASE\_LETTER], [CharCategory.MODIFIER\_LETTER], or [CharCategory.OTHER\_LETTER].

```

@sample samples.text.Chars.isLetter
@SinceKotlin("1.5")
public expect fun Char.isLetter(): Boolean

```

Returns `true` if this character is a letter or digit.

```

@see isLetter
@see isDigit
@sample samples.text.Chars.isLetterOrDigit
@SinceKotlin("1.5")
public expect fun Char.isLetterOrDigit(): Boolean

```

Returns `true` if this character is a digit.

A character is considered to be a digit if its [category] is [CharCategory.DECIMAL\_DIGIT\_NUMBER].

```

@sample samples.text.Chars.isDigit
@SinceKotlin("1.5")
public expect fun Char.isDigit(): Boolean

```

Returns `true` if this character is upper case.

A character is considered to be an upper case character if its [category] is [CharCategory.UPPERCASE\_LETTER], or it has contributory property `Other\_Uppercase` as defined by the Unicode Standard.

```

@sample samples.text.Chars.isUpperCase
@SinceKotlin("1.5")
public expect fun Char.isUpperCase(): Boolean

```

Returns `true` if this character is lower case.

A character is considered to be a lower case character if its [category] is [CharCategory.LOWERCASE\_LETTER], or it has contributory property `Other\_Lowercase` as defined by the Unicode Standard.

```

@sample samples.text.Chars.isLowerCase
@SinceKotlin("1.5")
public expect fun Char.isLowerCase(): Boolean

```

Returns `true` if this character is a title case letter.

A character is considered to be a title case letter if its [category] is [CharCategory.TITLECASE\_LETTER].

```

@sample samples.text.Chars.isTitleCase
@SinceKotlin("1.5")
public expect fun Char.isTitleCase(): Boolean

```

Returns `true` if this character is an ISO control character.

A character is considered to be an ISO control character if its [category] is [CharCategory.CONTROL], meaning the Char is in the range `'\u0000'..' \u001F'` or in the range `'\u007F'..' \u009F'`.

```

@sample samples.text.Chars.isISOControl
@SinceKotlin("1.5")
public expect fun Char.isISOControl(): Boolean

```

Determines whether a character is whitespace according to the Unicode standard.

```

Returns `true` if the character is whitespace.
@sample samples.text.Chars.isWhitespace
public expect fun Char.isWhitespace(): Boolean

```

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```

package kotlin
Creates a Char with the specified [code], or throws an exception if the [code] is out of `Char.MIN_VALUE.code..Char.MAX_VALUE.code`.
If the program that calls this function is written in a way that only valid [code] is passed as the argument, using the overload that takes a [UShort] argument is preferable (`Char(intValue.toUShort())`).
That overload doesn't check validity of the argument, and may

```

```

improve program performance when the function is called routinely inside a loop.\n *\n * @sample
samples.text.Chars.charFromCode\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Char(code: Int): Char {\n    if (code < Char.MIN_VALUE.code || code > Char.MAX_VALUE.code) {\n        throw IllegalArgumentException("Invalid Char code: $code")\n    }\n    return code.toChar()\n}\n\n**\n *
Creates a Char with the specified [code].\n *\n * @sample samples.text.Chars.charFromCode\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun Char(code: UShort): Char\n\n**\n * Returns the code of this Char.\n *\n * Code of a Char is the value it was constructed with, and the UTF-16 code unit corresponding to this Char.\n *\n * @sample
samples.text.Chars.code\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\n@Suppress("DEPRECATION")\npublic inline val Char.code: Int get() = this.toInt()\n\n/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage kotlin.sequences\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n**\n * Returns `true` if [element] is found in the sequence.\n *\n * The operation is _terminal_.\n *\n@kotlin.internal.OnlyInputTypes T> Sequence<T>.contains(element: T): Boolean {\n    return indexOf(element) >= 0\n}\n\n**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAt\n *\n@kotlin.internal.OnlyInputTypes T> Sequence<T>.elementAt(index: Int): T {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("Sequence doesn't contain element at index $index.") }\n}\n\n**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *\n@kotlin.internal.OnlyInputTypes T> Sequence<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n    if (index < 0)\n        return defaultValue(index)\n    val iterator = iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n            return element\n    }\n    return defaultValue(index)\n}\n\n**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *\n@kotlin.internal.OnlyInputTypes T> Sequence<T>.elementAtOrNull(index: Int): T? {\n    if (index < 0)\n        return null\n    val iterator = iterator()\n    var count = 0\n    while (iterator.hasNext()) {\n        val element = iterator.next()\n        if (index == count++)\n            return element\n    }\n    return null\n}\n\n**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.find\n *\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.find(predicate: (T) -> Boolean): T? {\n    return firstOrNull(predicate)\n}\n\n**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.find\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.findLast(predicate: (T) -> Boolean): T? {\n    return lastOrNull(predicate)\n}\n\n**\n * Returns first element.\n * @throws [NoSuchElementException] if the sequence is empty.\n *\n * The operation is _terminal_.\n *\n@kotlin.internal.OnlyInputTypes T> Sequence<T>.first(): T {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        throw NoSuchElementException("Sequence is empty.")\n    return iterator.next()\n}\n\n**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n *\n * The operation is _terminal_.\n *\n@kotlin.internal.OnlyInputTypes T> Sequence<T>.first(predicate: (T) -> Boolean): T {\n    for (element in this) if (predicate(element)) return element\n    throw NoSuchElementException("Sequence contains no element matching the predicate.")\n}\n\n**\n *

```

\* Returns the first non-null value produced by [transform] function being applied to elements of this sequence in iteration order, or throws [NoSuchElementException] if no non-null value was produced. The operation is `_terminal_`.

```
@sample samples.collections.Collections.Transformations.firstNotNullOf
*
* \n @SinceKotlin("1.5") \n @kotlin.internal.InlineOnly \n public inline fun <T, R : Any>
Sequence<T>.firstNotNullOf(transform: (T) -> R?): R { \n    return firstNotNullOfOrNull(transform) ?: throw
NoSuchElementException("No element of the sequence was transformed to a non-null value.") \n } \n \n /**
* Returns the first non-null value produced by [transform] function being applied to elements of this sequence in
iteration order, or `null` if no non-null value was produced. The operation is _terminal_.


```
@sample samples.collections.Collections.Transformations.firstNotNullOf
*
* \n @SinceKotlin("1.5") \n @kotlin.internal.InlineOnly \n public inline fun <T, R : Any>
Sequence<T>.firstNotNullOfOrNull(transform: (T) -> R?): R? { \n    for (element in this) { \n        val result =
transform(element) \n        if (result != null) { \n            return result \n        } \n    } \n    return null \n } \n \n /**
* Returns the first element, or `null` if the sequence is empty. The operation is _terminal_.


```
\n public fun
<T> Sequence<T>.firstOrNull(): T? { \n    val iterator = iterator() \n    if (!iterator.hasNext()) \n        return null \n
return iterator.next() \n } \n \n /**
* Returns the first element matching the given [predicate], or `null` if element was
not found. The operation is _terminal_.


```
\n public inline fun <T> Sequence<T>.firstOrNull(predicate: (T)
-> Boolean): T? { \n    for (element in this) if (predicate(element)) return element \n    return null \n } \n \n /**
* Returns first index of [element], or -1 if the sequence does not contain element. The operation is
_terminal_.


```
\n public fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.indexOf(element: T): Int { \n    var
index = 0 \n    for (item in this) { \n        checkIndexOverflow(index) \n        if (element == item) \n            return
index \n        index++ \n    } \n    return -1 \n } \n \n /**
* Returns index of the first element matching the given
[predicate], or -1 if the sequence does not contain such element. The operation is _terminal_.


```
\n public
inline fun <T> Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int { \n    var index = 0 \n    for (item in this)
{ \n        checkIndexOverflow(index) \n        if (predicate(item)) \n            return index \n        index++ \n    } \n
return -1 \n } \n \n /**
* Returns index of the last element matching the given [predicate], or -1 if the sequence does not
contain such element. The operation is _terminal_.


```
\n public inline fun <T>
Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int { \n    var lastIndex = -1 \n    var index = 0 \n    for (item in
this) { \n        checkIndexOverflow(index) \n        if (predicate(item)) \n            lastIndex = index \n            index++
 \n    } \n    return lastIndex \n } \n \n /**
* Returns the last element. The operation is _terminal_.


```
\n * @throws
NoSuchElementException if the sequence is empty. \n \n @sample
samples.collections.Collections.Elements.last \n \n public fun <T> Sequence<T>.last(): T { \n    val iterator =
iterator() \n    if (!iterator.hasNext()) \n        throw NoSuchElementException("Sequence is empty.") \n    var last =
iterator.next() \n    while (iterator.hasNext()) \n        last = iterator.next() \n    return last \n } \n \n /**
* Returns the last
element matching the given [predicate]. The operation is _terminal_.


```
\n * @throws
NoSuchElementException if no such element is found. \n \n @sample
samples.collections.Collections.Elements.last \n \n public inline fun <T> Sequence<T>.last(predicate: (T) ->
Boolean): T { \n    var last: T? = null \n    var found = false \n    for (element in this) { \n        if (predicate(element))
{ \n            last = element \n            found = true \n        } \n    } \n    if (!found) throw
NoSuchElementException("Sequence contains no element matching the predicate.") \n
} \n \n /**
* Returns last index of [element], or -1 if the
sequence does not contain element. The operation is _terminal_.


```
\n public fun
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int { \n    var lastIndex = -1 \n    var
index = 0 \n    for (item in this) { \n        checkIndexOverflow(index) \n        if (element == item) \n            lastIndex =
index \n            index++ \n    } \n    return lastIndex \n } \n \n /**
* Returns the last element, or `null` if the sequence is
empty. The operation is _terminal_.


```
\n @sample samples.collections.Collections.Elements.last \n
* \n public fun <T> Sequence<T>.lastOrNull(): T? { \n    val iterator = iterator() \n    if (!iterator.hasNext()) \n
return null \n    var last = iterator.next() \n    while (iterator.hasNext()) \n        last = iterator.next() \n    return
last \n } \n \n /**
* Returns the last element matching the given [predicate], or `null` if no such element was found.
```


```


```


```


```


```


```


```


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```


```

```

*\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Elements.last\n *\npublic
inline fun <T> Sequence<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n  var last: T? = null\n  for (element in
this) {\n    if (predicate(element)) {\n      last = element\n    }\n  }\n  return last\n}\n\n**\n * Returns the
single element, or throws an exception if the sequence is empty or has more than one element.\n *\n * The operation
is _terminal_.\n *\npublic fun <T> Sequence<T>.single(): T {\n  val iterator = iterator()\n  if
(!iterator.hasNext())\n    throw NoSuchElementException("Sequence is empty.")\n  val single =
iterator.next()\n  if (iterator.hasNext())\n    throw IllegalArgumentException("Sequence has more than one
element.")\n  return single\n}\n\n**\n * Returns the single element matching the given [predicate], or throws
exception if there is no or more than one matching element.\n *\n * The operation is _terminal_.\n *\npublic inline
fun <T> Sequence<T>.single(predicate: (T) -> Boolean): T {\n  var single: T? = null\n  var found = false\n
for (element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Sequence
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Sequence contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as T\n}\n\n**\n * Returns single element, or `null` if the
sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n *\npublic fun <T>
Sequence<T>.singleOrNull(): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext())\n    return null\n  val
single = iterator.next()\n  if (iterator.hasNext())\n    return null\n  return single\n}\n\n**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n * The operation is _terminal_.\n *\npublic inline fun <T> Sequence<T>.singleOrNull(predicate: (T) ->
Boolean): T? {\n  var single: T? = null\n  var found = false\n  for (element in this) {\n    if (predicate(element))
{\n      if (found) return null\n      single = element\n      found = true\n    }\n  }\n  if (!found) return
null\n  return single\n}\n\n**\n * Returns a sequence containing all elements except first [n] elements.\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n *
@sample samples.collections.Collections.Transformations.drop\n *\npublic fun <T> Sequence<T>.drop(n: Int):
Sequence<T> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  return when {\n    n
== 0 -> this\n    this is DropTakeSequence -> this.drop(n)\n    else -> DropSequence(this, n)\n  }\n}\n\n**\n *
Returns a sequence containing all elements except first elements that satisfy the given [predicate].\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic fun <T> Sequence<T>.dropWhile(predicate: (T)
-> Boolean): Sequence<T> {\n  return DropWhileSequence(this, predicate)\n}\n\n**\n * Returns a sequence
containing only elements matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n
*\n * @sample samples.collections.Collections.Filtering.filter\n *\npublic fun <T> Sequence<T>.filter(predicate:
(T) -> Boolean): Sequence<T> {\n  return FilteringSequence(this, true, predicate)\n}\n\n**\n * Returns a sequence
containing only elements matching the given [predicate].\n *\n * @param [predicate] function that takes the index of an
element and the element itself\n * and returns the result of predicate evaluation on the element.\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Filtering.filterIndexed\n *\npublic fun <T> Sequence<T>.filterIndexed(predicate:
(index: Int, T) -> Boolean): Sequence<T> {\n  // TODO: Rewrite with generalized MapFilterIndexingSequence\n
return TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) }), {
it.value })\n}\n\n**\n * Appends all elements matching the given [predicate] to the given [destination].\n *\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n *\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n**\n * Returns a sequence containing all elements that are instances of specified type parameter
R.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Filtering.filterIsInstance\n *\npublic inline fun <reified R>

```



```

Sequence<*>.filterIsInstance(): Sequence<@kotlin.internal.NoInfer R> {\n
  @Suppress("UNCHECKED_CAST")\n  return filter { it is R } as Sequence<R>\n}\n\n/**\n * Appends all
elements that are instances of specified type parameter R to the given [destination].\n *\n * The operation is
_terminal_.\n *\n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\n *\npublic inline fun
<reified R, C : MutableCollection<in R>> Sequence<*>.filterIsInstanceTo(destination: C): C {\n  for (element in
this) if (element is R) destination.add(element)\n  return destination\n}\n\n/**\n * Returns a sequence containing
all elements not matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n *\n *
@sample samples.collections.Collections.Filtering.filter\n *\npublic fun <T> Sequence<T>.filterNot(predicate: (T)
-> Boolean): Sequence<T> {\n  return FilteringSequence(this, false, predicate)\n}\n\n/**\n * Returns a sequence
containing all elements that are not `null`.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n *
@sample samples.collections.Collections.Filtering.filterNotNull\n *\npublic fun <T : Any> Sequence<T?>.filterNotNull():
Sequence<T> {\n  @Suppress("UNCHECKED_CAST")\n  return filterNot { it == null } as
Sequence<T>\n}\n\n/**\n * Appends all elements that are not `null` to the given [destination].\n *\n * The operation
is _terminal_.\n *\n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n *\npublic fun <C :
MutableCollection<in T>, T : Any> Sequence<T?>.filterNotNullTo(destination: C): C {\n  for (element in this) if
(element != null) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n  for (element in this) if
(!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Filtering.filterTo\n *\npublic inline fun <T, C : MutableCollection<in T>>
Sequence<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n  for (element in this) if (predicate(element))
destination.add(element)\n  return destination\n}\n\n/**\n * Returns a sequence containing first [n] elements.\n *\n *
The operation is _intermediate_ and _stateless_.\n *\n * @throws IllegalArgumentException if [n] is negative.\n *\n *
@sample samples.collections.Collections.Transformations.take\n *\npublic fun <T> Sequence<T>.take(n: Int):
Sequence<T> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  return when {\n    n
== 0 -> emptySequence()\n    this is DropTakeSequence -> this.take(n)\n    else -> TakeSequence(this, n)\n  }\n}\n\n/**\n * Returns a sequence containing first elements satisfying the given [predicate].\n *\n * The operation
is _intermediate_ and _stateless_.\n *\n * @sample samples.collections.Collections.Transformations.take\n *\npublic fun <T> Sequence<T>.takeWhile(predicate: (T) -> Boolean): Sequence<T> {\n  return
TakeWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted
according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\npublic fun <T :
Comparable<T>> Sequence<T>.sorted(): Sequence<T> {\n  return object : Sequence<T> {\n    override fun
iterator(): Iterator<T> {\n      val sortedList = this@sorted.toMutableList()\n      sortedList.sort()\n      return sortedList.iterator()\n    }\n  }\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted according to natural sort order of the value returned by specified [selector] function.\n *\n * The sort is
_stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation
is _intermediate_ and _stateful_.\n *\n * @sample samples.collections.Collections.Sorting.sortedBy\n *\npublic inline fun <T, R : Comparable<R>> Sequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n
return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to natural sort order of the value returned by specified [selector] function.\n *\n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The
operation is _intermediate_ and _stateful_.\n *\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n  return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements

```

```

preserve their order relative to each other after sorting.\n * The operation is _intermediate_ and _stateful_.\n
*\npublic fun <T : Comparable<T>> Sequence<T>.sortedDescending(): Sequence<T> {\n return
sortedWith(reverseOrder())\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according
to the specified [comparator].\n * The sort is _stable_. It means that equal elements preserve their order relative
to each other after sorting.\n * The operation is _intermediate_ and _stateful_.\n *\npublic fun <T>
Sequence<T>.sortedWith(comparator: Comparator<in T>): Sequence<T> {\n return object : Sequence<T> {\n
override fun iterator(): Iterator<T> {\n val sortedList = this@sortedWith.toMutableList()\n
sortedList.sortWith(comparator)\n return sortedList.iterator()\n }\n }\n}\n\n/**\n * Returns a [Map]
containing key-value pairs provided by [transform] function\n * applied to elements of the given sequence.\n * If any of two pairs would have the same key the last one gets added to the map.\n * The returned map preserves
the entry iteration order of the original sequence.\n * The operation is _terminal_.\n * @sample
samples.collections.Collections.Transformations.associate\n *\npublic inline fun <T, K, V>
Sequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n return associateTo(LinkedHashMap<K,
V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given sequence indexed by the
key\n * returned from [keySelector] function applied to each element.\n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * The returned map preserves the entry
iteration order of the original sequence.\n * The operation is _terminal_.\n * @sample
samples.collections.Collections.Transformations.associateBy\n *\npublic inline fun <T, K>
Sequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n return associateByTo(LinkedHashMap<K,
T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed
by [keySelector] functions applied to elements of the given sequence.\n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * The returned map preserves the entry
iteration order of the original sequence.\n * The operation is _terminal_.\n * @sample
samples.collections.Collections.Transformations.associateByWithValueTransform\n *\npublic inline fun <T, K, V>
Sequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n return
associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to
each element of the given sequence\n * and value is the element itself.\n * If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.\n * The operation is _terminal_.\n * @sample
samples.collections.Collections.Transformations.associateByTo\n *\npublic inline fun <T, K, M :
MutableMap<in K, in T>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for
(element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the
given sequence.\n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * The operation is _terminal_.\n * @sample
samples.collections.Collections.Transformations.associateByToWithValueTransform\n *\npublic inline fun <T, K,
V, M : MutableMap<in K, in V>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element),
valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable
map with key-value pairs\n * provided by [transform] function applied to each element of the given sequence.\n *
If any of two pairs would have the same key the last one gets added to the map.\n * The operation is
_intermediate_ and _stateful_.\n * The operation is _terminal_.\n * @sample
samples.collections.Collections.Transformations.associateTo\n *\npublic inline fun
<T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>):
M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n *
Returns a [Map] where keys are elements from the given sequence and values are\n * produced by the
[valueSelector] function applied to each element.\n * If any two elements are equal, the last one gets added to
the map.\n * The returned map preserves the entry iteration order of the original sequence.\n * The

```

operation is `_terminal_`.  
`@sample samples.collections.Collections.Transformations.associateWith`  
`*\n@SinceKotlin("1.3")\npublic inline fun <K, V> Sequence<K>.associateWith(valueSelector: (K) -> V):`  
`Map<K, V> {`  
`val result = LinkedHashMap<K, V>()\n`  
`return associateWithTo(result,`  
`valueSelector)\n}\n\n**\n * Populates and returns the [destination] mutable map with key-value pairs for each`  
`element of the given sequence,\n * where key is the element itself and value is provided by the [valueSelector]`  
`function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the`  
`map.\n * \n * The operation is _terminal_.`  
`@sample`  
`samples.collections.Collections.Transformations.associateWithTo`  
`*\n@SinceKotlin("1.3")\npublic inline fun`  
`<K, V, M : MutableMap<in K, in V>> Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M`  
`{`  
`for (element in this) {`  
`destination.put(element, valueSelector(element))\n`  
`}\n`  
`return`  
`destination\n}\n\n**\n * Appends all elements to the given [destination] collection.\n * \n * The operation is`  
`_terminal_.`  
`public fun <T, C : MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {`  
`for (item in this) {`  
`destination.add(item)\n`  
`}\n`  
`return destination\n}\n\n**\n * Returns a new [HashSet] of`  
`all elements.\n * \n * The operation is _terminal_.`  
`public fun <T> Sequence<T>.toHashSet(): HashSet<T> {`  
`return toCollection(HashSet<T>())\n}\n\n**\n * Returns a [List] containing all elements.\n * \n * The operation is`  
`_terminal_.`  
`public fun <T> Sequence<T>.toList(): List<T> {`  
`return`  
`this.toMutableList().optimizeReadOnlyList()\n}\n\n**\n * Returns a new [MutableList] filled with all elements of`  
`this sequence.\n * \n * The operation is _terminal_.`  
`public fun <T> Sequence<T>.toMutableList():`  
`MutableList<T> {`  
`return toCollection(ArrayList<T>())\n}\n\n**\n * Returns a [Set] of all elements.\n * \n * \n * \n * The returned set preserves the element iteration order of the original sequence.\n * \n * The operation is`  
`_terminal_.`  
`public fun <T> Sequence<T>.toSet(): Set<T> {`  
`return`  
`toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n**\n * Returns a single sequence of all elements`  
`from results of [transform] function being invoked on each element of original sequence.\n * \n * The operation is`  
`_intermediate_ and _stateless_.`  
`@sample samples.collections.Collections.Transformations.flatMap`  
`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution`  
`ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIterable")\npublic fun <T, R>`  
`Sequence<T>.flatMap(transform: (T) -> Iterable<R>): Sequence<R> {`  
`return FlatteningSequence(this,`  
`transform, Iterable<R>::iterator)\n}\n\n**\n * Returns a single sequence of all elements from results of [transform]`  
`function being invoked on each element of original sequence.\n * \n * The operation is _intermediate_ and`  
`_stateless_.`  
`@sample samples.collections.Collections.Transformations.flatMap`  
`public fun <T, R>`  
`Sequence<T>.flatMap(transform: (T) -> Sequence<R>): Sequence<R> {`  
`return FlatteningSequence(this,`  
`transform, Sequence<R>::iterator)\n}\n\n**\n * Returns a single sequence of all elements yielded from results of`  
`[transform] function being invoked on each element\n * and its index in the original sequence.\n * \n * The operation`  
`is _intermediate_ and _stateless_.`  
`@sample`  
`samples.collections.Collections.Transformations.flatMapIndexed`  
`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution`  
`ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedIterable")\npublic fun <T, R>`  
`Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): Sequence<R> {`  
`return`  
`flatMapIndexed(this, transform, Iterable<R>::iterator)\n}\n\n**\n * Returns a single sequence of all elements`  
`yielded from results of [transform] function being invoked on each element\n * and its index in the original`  
`sequence.\n * \n * The operation is _intermediate_ and _stateless_.`  
`@sample`  
`samples.collections.Collections.Transformations.flatMapIndexed`  
`*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution`  
`ByLambdaReturnType\n@kotlin.jvm.JvmName("flatMapIndexedSequence")\npublic fun <T, R>`  
`Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): Sequence<R> {`  
`return`  
`flatMapIndexed(this, transform, Sequence<R>::iterator)\n}\n\n**\n * Appends all elements yielded from results of`  
`[transform] function being invoked on each element\n * and its index in the original sequence, to the given`  
`[destination].\n * \n * The operation is _terminal_.`

```

*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n**\n * Appends all elements yielded from results of [transform] function being invoked on each
element\n * and its index in the original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\flatMapIndexedSequenceTo")\n@kotlin.internal.InlineOnly\npu
blic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Sequence<R>): C {\n    var index = 0\n    for (element in this) {\n        val list =
transform(checkIndexOverflow(index++), element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\flatMapIterableTo")\npublic inline fun <T, R, C :
MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n
*\npublic inline fun
<T, R, C : MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C
{\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return
destination\n}\n\n**\n * Groups elements of the original sequence by the key returned by the given [keySelector]
function\n * applied to each element and returns a map where each group key is associated with a list of
corresponding elements.\n *\n * The returned map preserves the entry iteration order of the keys produced from the
original sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K>
Sequence<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)\n}\n\n**\n * Groups values returned by the [valueTransform] function applied to
each element of the original sequence\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n *\n * The
returned map preserves the entry iteration order of the keys produced from the original sequence.\n *\n * The
operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V>
Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n**\n * Groups elements
of the original sequence by the key returned by the given [keySelector] function\n * applied to each element and
puts to the [destination] map each group key associated with a list of corresponding elements.\n *\n * @return The
[destination] map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <T, K, M : MutableMap<in K,
MutableList<T>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n    for (element in this)
{\n        val key = keySelector(element)\n        val list = destination.getOrPut(key) { ArrayList<T>() }\n
list.add(element)\n    }\n    return destination\n}\n\n**\n * Groups values returned by the [valueTransform] function
applied to each element of the original sequence\n * by the key returned by the given [keySelector] function applied
to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K,

```



only distinct elements from the given sequence.  
Among equal elements of the given sequence, only the first one will be present in the resulting sequence.  
The elements in the resulting sequence are in the same order as they were in the source sequence.

```

@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy
*/\npublic fun <T>
Sequence<T>.distinct(): Sequence<T> {\n    return this.distinctBy { it }\n}\n\n/**
* Returns a sequence containing only elements from the given sequence
* having distinct keys returned by the given [selector] function.
* Among elements of the given sequence with equal keys, only the first one will be present in the resulting sequence.
* The elements in the resulting sequence are in the same order as they were in the source sequence.
* The operation is _intermediate_ and _stateful_.
*/
@sample
samples.collections.Collections.Transformations.distinctAndDistinctBy
*/\npublic fun <T, K>
Sequence<T>.distinctBy(selector: (T) -> K): Sequence<T> {\n    return DistinctSequence(this, selector)\n}\n\n/**
* Returns a new [MutableSet] containing all distinct elements from the given sequence.
* The returned set preserves the element iteration order of the original sequence.
* The operation is _terminal_.
*/
\npublic fun <T> Sequence<T>.toMutableSet(): MutableSet<T> {\n    val set = LinkedHashSet<T>()\n    for (item in this) set.add(item)\n    return set\n}\n\n/**
* Returns `true` if all elements match the given [predicate].
* The operation is _terminal_.
*/
@sample
samples.collections.Collections.Aggregates.all
*/\npublic inline fun <T> Sequence<T>.all(predicate: (T) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**
* Returns `true` if sequence has at least one element.
* The operation is _terminal_.
*/
@sample
samples.collections.Collections.Aggregates.any
*/\npublic fun <T>
Sequence<T>.any(): Boolean {\n    return iterator().hasNext()\n}\n\n/**
* Returns `true` if at least one element matches the given [predicate].
* The operation is _terminal_.
*/
@sample
samples.collections.Collections.Aggregates.anyWithPredicate
*/\npublic inline fun <T>
Sequence<T>.any(predicate: (T) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return false\n}\n\n/**
* Returns the number of elements in this sequence.
* The operation is _terminal_.
*/
\npublic fun <T> Sequence<T>.count(): Int {\n    var count = 0\n    for (element in this) checkCountOverflow(++count)\n    return count\n}\n\n/**
* Returns the number of elements matching the given [predicate].
* The operation is _terminal_.
*/
\npublic inline fun <T> Sequence<T>.count(predicate: (T) -> Boolean): Int {\n    var count = 0\n    for (element in this) if (predicate(element)) checkCountOverflow(++count)\n    return count\n}\n\n/**
* Accumulates value starting with [initial] value and applying [operation] from left to right
* to current accumulator value and each element.
* Returns the specified [initial] value if the sequence is empty.
*/
@param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.
* The operation is _terminal_.
*/
\npublic inline fun <T, R>
Sequence<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n    var accumulator = initial\n    for (element in this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**
* Accumulates value starting with [initial] value and applying [operation] from left to right
* to current accumulator value and each element with its index in the original sequence.
* Returns the specified [initial] value if the sequence is empty.
*/
@param [operation] function that takes the index of an element, current accumulator value
* and the element itself, and calculates the next accumulator value.
* The operation is _terminal_.
*/
\npublic inline fun <T, R>
Sequence<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n    var index = 0\n    var accumulator = initial\n    for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n    return accumulator\n}\n\n/**
* Performs the given [action] on each element.
* The operation is _terminal_.
*/
\npublic inline fun <T> Sequence<T>.forEach(action: (T) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**
* Performs the given [action] on each element, providing sequential index with the element.
* @param [action] function that takes the index of an element and the element itself
* and performs the action on the element.
* The operation is _terminal_.
*/
\npublic inline fun <T>
Sequence<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(checkIndexOverflow(index++), item)\n}\n\n@Deprecated("Use maxOrNull instead.")
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5"),

```

```

hiddenSince = `1.6`)@SinceKotlin("1.1")\npublic fun Sequence<Double>.max(): Double? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`,
hiddenSince = `1.6`)@SinceKotlin("1.1")\npublic fun Sequence<Float>.max(): Float? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.")
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`,
hiddenSince = `1.6`)@SinceKotlin("1.1")\npublic fun <T : Comparable<T>> Sequence<T>.max(): T? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxByOrNull instead.")
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince =
`1.5`, hiddenSince = `1.6`)@SinceKotlin("1.1")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxBy(selector: (T) ->
R): T? {\n    return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the
given function or `null` if there are no elements.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n * \n * @SinceKotlin("1.4")\n * \n * @public inline fun <T, R :
Comparable<R>> Sequence<T>.maxByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(iterator.hasNext()) return null\n    var maxElem = iterator.next()\n    if (!iterator.hasNext()) return maxElem\n    var
maxValue = selector(maxElem)\n    do {\n        val e = iterator.next()\n        val v = selector(e)\n        if (maxValue <
v) {\n            maxElem = e\n            maxValue = v\n        }\n    } while (iterator.hasNext())\n    return
maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result
is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * The operation is
_terminal_.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
if the sequence is empty.\n * \n * The operation is _terminal_.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.maxOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var maxValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * The operation is _terminal_.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector:
(T) -> Double): Double? {\n    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var maxValue =
selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n        maxValue =

```

```

maxOf(maxValue, v) } return maxValue }

 * Returns the largest value among all values produced
by [selector] function * applied to each element in the sequence or `null` if there are no elements.
 * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.
 * The operation is _terminal_.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.maxOrNull(selector:
(T) -> Float): Float? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var maxValue =
selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        maxValue =
maxOf(maxValue, v)
    }
    return maxValue
}

 * Returns the largest value among all values produced
by [selector] function * applied to each element in the sequence or `null` if there are no elements.
 * The
operation is _terminal_.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>>
Sequence<T>.maxOrNull(selector: (T) -> R): R? {
    val iterator = iterator()
    if (!iterator.hasNext()) return
null
    var maxValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v =
selector(iterator.next())
        if (maxValue < v) {
            maxValue = v
        }
    }
    return
maxValue
}

 * Returns the largest value according to the provided [comparator] * among all values
produced by [selector] function applied to each element in the sequence.
 * @throws
NoSuchElementException if the sequence is empty.
 * The operation is _terminal_.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <T, R>
Sequence<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {
    val iterator = iterator()
    if
(!iterator.hasNext()) throw NoSuchElementException()
    var maxValue = selector(iterator.next())
    while
(iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(maxValue, v) < 0) {
           
maxValue = v
        }
    }
    return maxValue
}

 * Returns the largest value according to the provided
[comparator] * among all values produced by [selector] function applied to each element in the sequence or `null`
if there are no elements.
 * The operation is _terminal_.

@SinceKotlin("1.4")@OptIn(kotlin.experimental.ExperimentalTypeInference::class)@OverloadResolution
ByLambdaReturnType@kotlin.internal.InlineOnly
public inline fun <T, R>
Sequence<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {
    val iterator =
iterator()
    if (!iterator.hasNext()) return null
    var maxValue = selector(iterator.next())
    while
(iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(maxValue, v) < 0) {
           
maxValue = v
        }
    }
    return maxValue
}

 * Returns the largest element or `null` if there are no
elements.
 * If any of elements is `NaN` returns `NaN`.
 * The operation is _terminal_.

@SinceKotlin("1.4")
public fun Sequence<Double>.maxOrNull(): Double? {
    val iterator = iterator()
    if
(!iterator.hasNext()) return null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e =
iterator.next()
        max = maxOf(max, e)
    }
    return max
}

 * Returns the largest element or `null` if
there are no elements.
 * If any of elements is `NaN` returns `NaN`.
 * The operation is _terminal_.

@SinceKotlin("1.4")
public fun Sequence<Float>.maxOrNull(): Float? {
    val iterator = iterator()
    if
(!iterator.hasNext()) return null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e =
iterator.next()
        max = maxOf(max, e)
    }
    return max
}

 * Returns the largest element or `null` if
there are no elements.
 * The operation is _terminal_.

@SinceKotlin("1.4")
public fun <T :
Comparable<T>> Sequence<T>.maxOrNull(): T? {
    val iterator = iterator()
    if (!iterator.hasNext()) return
null
    var max = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        if (max < e) max
= e
    }
    return max
}

@Deprecated("Use maxWithOrNull instead.")
ReplaceWith("this.maxWithOrNull(comparator)")
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")
public fun <T> Sequence<T>.maxWith(comparator: Comparator<in T>): T? {
    return
maxWithOrNull(comparator)
}

 * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.
 * The operation is _terminal_.

```



```

*\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n
    val iterator = iterator()\n    if (!iterator.hasNext()) return null\n    var max = iterator.next()\n    while
(iterator.hasNext()) {\n        val e = iterator.next()\n        if (comparator.compare(max, e) < 0) max = e\n    }\n
return max\n}\n\n@Deprecated("Use minOrNull instead.")\n
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Sequence<Double>.min(): Double? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.")\n
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.1")\npublic fun Sequence<Float>.min(): Float? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minOrNull instead.")\n
ReplaceWith("this.minOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\npublic fun <T : Comparable<T>> Sequence<T>.min(): T? {\n    return
minOrNull()\n}\n\n@Deprecated("Use minByOrNull instead.")\n
ReplaceWith("this.minByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.minBy(selector: (T) ->
R): T? {\n    return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the
given function or `null` if there are no elements.\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin("1.4")\npublic inline fun <T, R :
Comparable<R>> Sequence<T>.minByOrNull(selector: (T) -> R): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext()) return null\n    var minElem = iterator.next()\n    if (!iterator.hasNext()) return minElem\n    var
minValue = selector(minElem)\n    do {\n        val e = iterator.next()\n        val v = selector(e)\n        if (minValue >
v) {\n            minElem = e\n            minValue = v\n        }\n    } while (iterator.hasNext())\n    return
minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result
is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n * \n * The operation is
_terminal_.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) ->
Double): Double {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values
produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException
if the sequence is empty.\n * \n * The operation is _terminal_.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) ->
Float): Float {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw NoSuchElementException()\n    var
minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v = selector(iterator.next())\n
minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all
values produced by [selector] function\n * applied to each element in the sequence.\n * \n * @throws
NoSuchElementException if the sequence is empty.\n * \n * The operation is _terminal_.\n */\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.minOf(selector: (T) -> R): R {\n    val iterator = iterator()\n    if (!iterator.hasNext()) throw
NoSuchElementException()\n    var minValue = selector(iterator.next())\n    while (iterator.hasNext()) {\n        val v
= selector(iterator.next())\n        if (minValue > v) {\n            minValue = v\n        }\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector]

```

```

function is `NaN`, the returned result is `NaN`.
}

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.minOrNull(selector: (T) -> Double): Double? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        minValue = minOf(minValue, v)
    }
    return minValue
}

* Returns the smallest value among all values produced by [selector] function
* applied to each element in the sequence or `null` if there are no elements.
* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
* The operation is _terminal_.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.minOrNull(selector: (T) -> Float): Float? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        minValue = minOf(minValue, v)
    }
    return minValue
}

* Returns the smallest value among all values produced by [selector] function
* applied to each element in the sequence or `null` if there are no elements.
* The operation is _terminal_.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R : Comparable<R>> Sequence<T>.minOrNull(selector: (T) -> R): R? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}

* Returns the smallest value according to the provided [comparator]
* among all values produced by [selector] function applied to each element in the sequence.
* @throws NoSuchElementException if the sequence is empty.
* The operation is _terminal_.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R> Sequence<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {
    val iterator = iterator()
    if (!iterator.hasNext()) throw NoSuchElementException()
    var minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(minValue, v) > 0) {
            minValue = v
        }
    }
    return minValue
}

* Returns the smallest value according to the provided [comparator]
* among all values produced by [selector] function applied to each element in the sequence or `null` if there are no elements.
* The operation is _terminal_.

* Since Kotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <T, R> Sequence<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var minValue = selector(iterator.next())
    while (iterator.hasNext()) {
        val v = selector(iterator.next())
        if (comparator.compare(minValue, v) > 0) {
            minValue = v
        }
    }
    return minValue
}

* Returns the smallest element or `null` if there are no elements.
* If any of elements is `NaN` returns `NaN`.
* The operation is _terminal_.

* Since Kotlin("1.4")
public fun Sequence<Double>.minOrNull(): Double? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var min = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        min = minOf(min, e)
    }
    return min
}

* Returns the smallest element or `null` if there are no elements.
* If any of elements is `NaN` returns `NaN`.
* The operation is _terminal_.

* Since Kotlin("1.4")
public fun Sequence<Float>.minOrNull(): Float? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var min = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        min = minOf(min, e)
    }
    return min
}

* Returns the smallest element or `null` if there are no elements.
* The operation is _terminal_.

* Since Kotlin("1.4")
public fun <T : Comparable<T>> Sequence<T>.minOrNull(): T? {
    val iterator = iterator()
    if (!iterator.hasNext()) return null
    var min = iterator.next()
    while (iterator.hasNext()) {
        val e = iterator.next()
        if (min > e) min

```

```

= e\n } \n return min\n}\n\n@Deprecated("Use minWithOrNull instead.\",
ReplaceWith("this.minWithOrNull(comparator)\")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\npublic fun <T> Sequence<T>.minWith(comparator: Comparator<in T>): T? {\n
return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to
the provided [comparator] or `null` if there are no elements.\n * \n * The operation is _terminal_.\n
*\n*\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.minWithOrNull(comparator: Comparator<in T>): T? {\n
val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while
(iterator.hasNext()) {\n val e = iterator.next()\n if (comparator.compare(min, e) > 0) min = e\n }\n return
min\n}\n\n/**\n * Returns `true` if the sequence has no elements.\n * \n * The operation is _terminal_.\n * \n *
*\n@sample samples.collections.Collections.Aggregates.none\n *\n*\npublic fun <T> Sequence<T>.none(): Boolean {\n
return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * The
operation is _terminal_.\n * \n * \n * \n@sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n*\npublic inline fun <T> Sequence<T>.none(predicate: (T) -> Boolean): Boolean {\n for (element in this) if
(predicate(element)) return false\n return true\n}\n\n/**\n * Returns a sequence which performs the given [action]
on each element of the original sequence as they pass through it.\n * \n * The operation is _intermediate_ and
_stateless_.\n * \n*\n@SinceKotlin("1.1")\npublic fun <T> Sequence<T>.onEach(action: (T) -> Unit): Sequence<T>
{\n return map {\n action(it)\n it\n }\n}\n\n/**\n * Returns a sequence which performs the given
[action] on each element of the original sequence as they pass through it.\n * \n * \n * \n@param [action] function that takes
the index of an element and the element itself\n * and performs the action on the element.\n * \n * The operation is
_intermediate_ and _stateless_.\n * \n*\n@SinceKotlin("1.4")\npublic fun <T> Sequence<T>.onEachIndexed(action:
(index: Int, T) -> Unit): Sequence<T> {\n return mapIndexed { index, element ->\n action(index, element)\n
element\n }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element.\n * \n * Throws an exception if this sequence is empty. If
the sequence can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * \n * \n@param [operation] function that takes current accumulator value and an element,\n *
and calculates the next accumulator value.\n * \n * The operation is _terminal_.\n * \n * \n * \n@sample
samples.collections.Collections.Aggregates.reduce\n *\n*\npublic inline fun <S, T : S>
Sequence<T>.reduce(operation: (acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext())
throw UnsupportedOperationException("Empty sequence can't be reduced.")\n var accumulator: S =
iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from
left to right\n * to current accumulator value and each element with its index in the original sequence.\n * \n *
*\n * Throws an exception if this sequence is empty. If the sequence can be empty in an expected way,\n * please use
[reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * \n * \n@param [operation] function
that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next
accumulator value.\n * \n * The operation is _terminal_.\n * \n * \n * \n@sample
samples.collections.Collections.Aggregates.reduce\n *\n*\npublic inline fun <S, T : S>
Sequence<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n val iterator = this.iterator()\n if
(!iterator.hasNext()) throw UnsupportedOperationException("Empty sequence can't be reduced.")\n var index =
1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator =
operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original sequence.\n * \n * Returns `null` if the sequence is
empty.\n * \n * \n * \n@param [operation] function that takes the index of an element, current accumulator value and the
element itself,\n * and calculates the next accumulator value.\n * \n * The operation is _terminal_.\n * \n * \n *
*\n@sample samples.collections.Collections.Aggregates.reduceOrNull\n *\n*\n@SinceKotlin("1.4")\npublic inline fun <S, T : S>
Sequence<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n val iterator = this.iterator()\n
if (!iterator.hasNext()) return null\n var index = 1\n var accumulator: S = iterator.next()\n while

```

```

(iterator.hasNext()) {\n    accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n
}\n    return accumulator}\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]\n from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the sequence is\n empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates\n the next accumulator value.\n * \n * The operation is _terminal_.\n * \n * @sample\n samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>\nSequence<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n    val iterator = this.iterator()\n    if\n (iterator.hasNext()) return null\n    var accumulator: S = iterator.next()\n    while (iterator.hasNext()) {\n    accumulator = operation(accumulator, iterator.next())\n    }\n    return accumulator}\n}\n\n/**\n * Returns a sequence\n containing successive accumulation values generated by applying [operation] from left to right\n * to each element\n and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]\n function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The\n [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function\n later because of sequence's lazy nature.\n * \n * @param [operation] function that takes current accumulator value\n and an element,\n and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and\n _stateless_.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningFold\n
*/\n\n@SinceKotlin("1.4")\npublic fun <T, R> Sequence<T>.runningFold(initial: R, operation: (acc: R, T) -> R):\nSequence<R> {\n    return sequence {\n        yield(initial)\n        var accumulator = initial\n        for (element in\n this@runningFold) {\n            accumulator = operation(accumulator, element)\n            yield(accumulator)\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation]\n from left to right\n * to each element, its index in the original sequence and current accumulator value that starts\n with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable\n (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the\n element itself, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningFold\n
*/\n\n@SinceKotlin("1.4")\npublic fun\n<T, R> Sequence<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n    return sequence {\n        yield(initial)\n        var index = 0\n        var accumulator = initial\n        for (element in\n this@runningFoldIndexed) {\n            accumulator = operation(checkIndexOverflow(index++), accumulator,\n element)\n            yield(accumulator)\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive\n accumulation values generated by applying [operation] from left to right\n * to each element and current\n accumulator value that starts with the first element of this sequence.\n * \n * Note that `acc` value passed to\n [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * \n * @param [operation] function that takes current accumulator value and the element, and calculates the next\n accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample\n samples.collections.Collections.Aggregates.runningReduce\n
*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <S, T : S>\nSequence<T>.runningReduce(operation: (acc: S, T) -> S): Sequence<S> {\n    return sequence {\n        val iterator =\n iterator()\n        if (iterator.hasNext()) {\n            var accumulator: S = iterator.next()\n            yield(accumulator)\n            while (iterator.hasNext()) {\n                accumulator = operation(accumulator, iterator.next())\n            }\n            yield(accumulator)\n        }\n    }\n}\n\n/**\n * Returns a sequence containing successive accumulation\n values generated by applying [operation] from left to right\n * to each element, its index in the original sequence and\n current accumulator value that starts with the first element of this sequence.\n * \n * Note that `acc` value passed to\n [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the\n element itself, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n

```

```

* \n * @sample samples.collections.Collections.Aggregates.runningReduce\n * \n @SinceKotlin("1.4")\npublic fun
<S, T : S> Sequence<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {\n  return
sequence {\n    val iterator = iterator()\n    if (iterator.hasNext()) {\n      var accumulator: S =
iterator.next()\n      yield(accumulator)\n      var index = 1\n      while (iterator.hasNext()) {\n
accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n
yield(accumulator)\n      }\n    }\n  }\n}\n/****\n * Returns a sequence containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable
(or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n
*\n * @param [operation] function that takes current accumulator value and an element, and calculates the next
accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scan(initial: R, operation: (acc: R, T) -> R): Sequence<R> {\n  return runningFold(initial,
operation)\n}\n/****\n * Returns a sequence containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original sequence and current accumulator value
that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n
* otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable
(or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n
*\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n * \n * The operation is _intermediate_ and _stateless_.\n
*\n * @sample samples.collections.Collections.Aggregates.scan\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R>
Sequence<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n/****\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n * \n * The operation is _terminal_.\n * \n @Deprecated("Use sumOf
instead.", ReplaceWith("this.sumOf(selector)"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline
fun <T> Sequence<T>.sumBy(selector: (T) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum
+= selector(element)\n  }\n  return sum\n}\n/****\n * Returns the sum of all values produced by [selector]
function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n * \n @Deprecated("Use
sumOf instead.", ReplaceWith("this.sumOf(selector)"))\n @DeprecatedSinceKotlin(warningSince =
"1.5")\npublic inline fun <T> Sequence<T>.sumByDouble(selector: (T) -> Double): Double {\n  var sum: Double
= 0.0\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n/****\n * Returns the sum
of all values produced by [selector] function applied to each element in the sequence.\n * \n * The operation is
_terminal_.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @kotlin.jvm.JvmName("sumOfDouble")\n @kotlin.internal.InlineOnly\npublic inline fun
<T> Sequence<T>.sumOf(selector: (T) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element
in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n/****\n * Returns the sum of all values produced
by [selector] function applied to each element in the sequence.\n * \n * The operation is _terminal_.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @kotlin.jvm.JvmName("sumOfInt")\n @kotlin.internal.InlineOnly\npublic inline fun <T>
Sequence<T>.sumOf(selector: (T) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum
+= selector(element)\n  }\n  return sum\n}\n/****\n * Returns the sum of all values produced by [selector] function
applied to each element in the sequence.\n * \n * The operation is _terminal_.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @kotlin.jvm.JvmName("sumOfLong")\n @kotlin.internal.InlineOnly\npublic inline fun

```

```

<T> Sequence<T>.sumOf(selector: (T) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the sequence.  
 \* The operation is `_terminal_`.

```

@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.jvm.JvmName("sumOfUInt")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.sumOf(selector: (T) -> UInt): UInt {
    var sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the sequence.  
 \* The operation is `_terminal_`.

```

@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.jvm.JvmName("sumOfULong")
@WasExperimental(ExperimentalUnsignedTypes::class)
@kotlin.internal.InlineOnly
public inline fun <T> Sequence<T>.sumOf(selector: (T) -> ULong): ULong {
    var sum: ULong = 0.toULong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns an original collection containing all the non-`null` elements, throwing an `IllegalArgumentException` if there are any `null` elements.  
 \* The operation is `_intermediate_` and `_stateless_`.

```

public fun <T : Any> Sequence<T>.requireNonNulls(): Sequence<T> {
    return map { it?.throw IllegalArgumentException("null element found in $this.") }
}

```

\* Splits this sequence into a sequence of lists each not exceeding the given [size].  
 \* The last list in the resulting sequence may have fewer elements than the given [size].  
 \* @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this sequence.  
 \* The operation is `_intermediate_` and `_stateful_`.

```

@sample samples.collections.Collections.Transformations.chunked

```

```

@SinceKotlin("1.2")
public fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {
    return windowed(size, size, partialWindows = true)
}

```

\* Splits this sequence into several lists each not exceeding the given [size] and applies the given [transform] function to an each.  
 \* @return sequence of results of the [transform] applied to an each list.  
 \* Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.  
 \* You should not store it or allow it to escape in some way, unless you made a snapshot of it.  
 \* The last list may have fewer elements than the given [size].  
 \* @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this sequence.

```

@sample samples.text.Strings.chunkedTransform

```

```

@SinceKotlin("1.2")
public fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R): Sequence<R> {
    return windowed(size, size, partialWindows = true, transform = transform)
}

```

\* Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].  
 \* The operation is `_intermediate_` and `_stateless_`.

```

public operator fun <T> Sequence<T>.minus(element: T): Sequence<T> {
    return object : Sequence<T> {
        override fun iterator(): Iterator<T> {
            var removed = false
            return this@minus.filter { if (!removed && it == element) { removed = true; false } else true }.iterator()
        }
    }
}

```

\* Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] array.  
 \* Note that the source sequence and the array being subtracted are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.  
 \* Before Kotlin 1.6, the [elements] array may have been converted to a `HashSet` to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.  
 \* On JVM, you can enable this behavior back with the system property `kotlin.collections.convert_arg_to_set_in_removeAll` set to `true`.

```

public operator fun <T> Sequence<T>.minus(elements: Array<out T>): Sequence<T> {
    if (elements.isEmpty()) return this
    return object : Sequence<T> {
        override fun iterator(): Iterator<T> {
            val other = elements.convertToSetForSetOperation()
            return this@minus.filterNot { it in other }.iterator()
        }
    }
}

```

\* Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] collection.  
 \* Note that the source sequence and the collection being

subtracted are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

Before Kotlin 1.6, the [elements] collection may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.

On JVM, you can enable this behavior back with the system property `kotlin.collections.convert\_arg\_to\_set\_in\_removeAll` set to `true`.

The operation is `_intermediate_ and _stateful_`.

```

public operator fun <T>
Sequence<T>.minus(elements: Iterable<T>): Sequence<T> {
    return object: Sequence<T> {
        override fun
        iterator(): Iterator<T> {
            val other = elements.convertToSetForSetOperation()
            if (other.isEmpty())
                return this@minus.iterator()
            else
                return this@minus.filterNot { it in other }.iterator()
        }
    }
}

```

Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] sequence.

Note that the source sequence and the sequence being subtracted are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_ for this sequence and _terminal_ and _stateful_ for the [elements] sequence`.

Before Kotlin 1.6, the [elements] sequence may have been converted to a [HashSet] to speed up the operation, thus the elements were required to have a correct and stable implementation of `hashCode()` that didn't change between successive invocations.

On JVM, you can enable this behavior back with the system property `kotlin.collections.convert\_arg\_to\_set\_in\_removeAll` set to `true`.

```

public operator fun <T> Sequence<T>.minus(elements: Sequence<T>): Sequence<T> {
    return
    object: Sequence<T> {
        override fun iterator(): Iterator<T> {
            val other =
            elements.convertToSetForSetOperation()
            if (other.isEmpty())
                return this@minus.iterator()
            else
                return this@minus.filterNot { it in other }.iterator()
        }
    }
}

```

Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].

The operation is `_intermediate_ and _stateless_`.

```

@kotlin.internal.InlineOnly
public inline fun <T>
Sequence<T>.minusElement(element: T): Sequence<T> {
    return minus(element)
}

```

Splits the original sequence into pair of lists, where `first` list contains elements for which [predicate] yielded `true`, while `second` list contains elements for which [predicate] yielded `false`.

The operation is `_terminal_`.

```

@sample samples.collections.Sequences.Transformations.partition
public inline fun <T>
Sequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {
    val first = ArrayList<T>()
    val second = ArrayList<T>()
    for (element in this) {
        if (predicate(element))
            first.add(element)
        else
            second.add(element)
    }
    return Pair(first, second)
}

```

Returns a sequence containing all elements of the original sequence and then the given [element].

The operation is `_intermediate_ and _stateless_`.

```

public operator fun <T> Sequence<T>.plus(element: T): Sequence<T> {
    return sequenceOf(this, sequenceOf(element)).flatten()
}

```

Returns a sequence containing all elements of original sequence and then all elements of the given [elements] array.

Note that the source sequence and the array being added are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_ and _stateless_`.

```

public operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T> {
    return
    this.plus(elements.asList())
}

```

Returns a sequence containing all elements of original sequence and then all elements of the given [elements] collection.

Note that the source sequence and the collection being added are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_ and _stateless_`.

```

public operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T> {
    return sequenceOf(this,
    elements.asSequence()).flatten()
}

```

Returns a sequence containing all elements of original sequence and then all elements of the given [elements] sequence.

Note that the source sequence and the sequence being added are iterated only when an `iterator` is requested from the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.

The operation is `_intermediate_ and _stateless_`.

```

public operator fun <T> Sequence<T>.plus(elements: Sequence<T>): Sequence<T> {
    return
    sequenceOf(this, elements).flatten()
}

```

Returns a sequence containing all elements of the original

sequence and then the given [element].\n \* \n \* The operation is `_intermediate_` and `_stateless_`.\n

```
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.plusElement(element: T): Sequence<T> {\n    return plus(element)\n}\n\n/**\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding along this sequence with the given [step], where each\n * snapshot is a list.\n * \n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this sequence.\n * \n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<List<T>> {\n    return windowedSequence(size, step, partialWindows, reuseBuffer = false)\n}\n\n/**\n * Returns a sequence of results of applying the given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding along this sequence with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last lists may have fewer elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this sequence.\n * \n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n@SinceKotlin("1.2")\npublic fun <T, R> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R): Sequence<R> {\n    return windowedSequence(size, step, partialWindows, reuseBuffer = true).map(transform)\n}\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same index.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n * \n * The operation is _intermediate_ and _stateless_. \n * \n * @sample samples.collections.Sequences.Transformations.zip\n */\npublic infix fun <T, R> Sequence<T>.zip(other: Sequence<R>): Sequence<Pair<T, R>> {\n    return MergingSequence(this, other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n * \n * The operation is _intermediate_ and _stateless_. \n * \n * @sample samples.collections.Sequences.Transformations.zipWithTransform\n */\npublic fun <T, R, V> Sequence<T>.zip(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V> {\n    return MergingSequence(this, other, transform)\n}\n\n/**\n * Returns a sequence of pairs of each two adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n * \n * The operation is _intermediate_ and _stateless_. \n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n */\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.zipWithNext(): Sequence<Pair<T, T>> {\n    return zipWithNext { a, b -> a to b }\n}\n\n/**\n * Returns a sequence containing the results of applying the given [transform] function\n * to an each pair of two adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n * \n * The operation is _intermediate_ and _stateless_. \n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n */\n@SinceKotlin("1.2")\npublic fun <T, R> Sequence<T>.zipWithNext(transform: (a: T, b: T) -> R): Sequence<R> {\n    return sequenceResult@\n    {\n        val iterator = iterator()\n        if (!iterator.hasNext()) return@result\n        var current = iterator.next()\n        while (iterator.hasNext()) {\n            val next = iterator.next()\n            yield(transform(current, next))\n            current = next\n        }\n    }\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the

```



```

[truncated] string (which defaults to "...").\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.joinTo\n */\npublic fun <T, A : Appendable>
Sequence<T>.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((T) -> CharSequence)? = null): A
{\n    buffer.append(prefix)\n    var count = 0\n    for (element in this) {\n        if (++count > 1)
buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            buffer.appendElement(element, transform)\n
        } else break\n    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n
return buffer\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n *\n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T>
Sequence<T>.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = "\"\", postfix: CharSequence =
\"\", limit: Int = -1, truncated: CharSequence = "...\", transform: ((T) -> CharSequence)? = null): String {\n    return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original sequence returning its elements when being iterated.\n */\npublic fun <T>
Sequence<T>.asIterable(): Iterable<T> {\n    return Iterable { this.iterator() }\n}\n\n/**\n * Returns this sequence as
a [Sequence].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.asSequence(): Sequence<T>
{\n    return this\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is
_terminal_.\n */\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Sequence<Byte>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Sequence<Short>.average(): Double {\n    var sum:
Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Sequence<Int>.average(): Double {\n    var sum: Double
= 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun
Sequence<Long>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n
sum += element\n    checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Sequence<Float>.average(): Double {\n    var sum:
Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Sequence<Double>.average(): Double {\n    var sum:
Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n
checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Sequence<Byte>.sum(): Int {\n    var sum: Int = 0\n    for
(element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the
sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun
Sequence<Short>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n
*/\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Sequence<Int>.sum(): Int {\n    var sum: Int = 0\n    for

```





NoSuchElementException("No element of the char sequence was transformed to a non-null value.")\n\n/\*\*\n \* Returns the first non-null value produced by [transform] function being applied to characters of this char sequence in iteration order,\n \* or `null` if no non-null value was produced.\n \* \n \* @sample samples.collections.Collections.Transformations.firstNotNullOf\n \*/\n\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun <R : Any>\nCharSequence.firstNotNullOfOrNull(transform: (Char) -> R?): R? {\n for (element in this) {\n val result = transform(element)\n if (result != null) {\n return result\n }\n }\n return null\n}\n\n/\*\*\n \* Returns the first character, or `null` if the char sequence is empty.\n \*/\n\npublic fun CharSequence.firstOrNull():\nChar? {\n return if (isEmpty()) null else this[0]\n}\n\n/\*\*\n \* Returns the first character matching the given [predicate], or `null` if character was not found.\n \*/\n\npublic inline fun CharSequence.firstOrNull(predicate: (Char) -> Boolean): Char? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/\*\*\n \* Returns a character at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this char sequence.\n \*/\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.getOrNull(index: Int, defaultValue: (Int) -> Char): Char? {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/\*\*\n \* Returns a character at the given [index] or `null` if the [index] is out of bounds of this char sequence.\n \* \n \* @sample samples.collections.Collections.Elements.getOrNull\n \*/\n\npublic fun CharSequence.getOrNull(index: Int): Char? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/\*\*\n \* Returns index of the first character matching the given [predicate], or -1 if the char sequence does not contain such character.\n \*/\n\npublic inline fun CharSequence.indexOfFirst(predicate: (Char) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/\*\*\n \* Returns index of the last character matching the given [predicate], or -1 if the char sequence does not contain such character.\n \*/\n\npublic inline fun CharSequence.indexOfLast(predicate: (Char) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/\*\*\n \* Returns the last character.\n \* \n \* @throws NoSuchElementException if the char sequence is empty.\n \* \n \* @sample samples.text.Strings.last\n \*/\n\npublic fun CharSequence.last(): Char {\n if (isEmpty())\n throw NoSuchElementException("Char sequence is empty.")\n return this[lastIndex]\n}\n\n/\*\*\n \* Returns the last character matching the given [predicate].\n \* \n \* @throws NoSuchElementException if no such character is found.\n \* \n \* @sample samples.text.Strings.last\n \*/\n\npublic inline fun CharSequence.last(predicate: (Char) -> Boolean): Char {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n throw NoSuchElementException("Char sequence contains no character matching the predicate.")\n}\n\n/\*\*\n \* Returns the last character, or `null` if the char sequence is empty.\n \* \n \* @sample samples.text.Strings.last\n \*/\n\npublic fun CharSequence.lastOrNull(): Char? {\n return if (isEmpty()) null else this[length - 1]\n}\n\n/\*\*\n \* Returns the last character matching the given [predicate], or `null` if no such character was found.\n \* \n \* @sample samples.text.Strings.last\n \*/\n\npublic inline fun CharSequence.lastOrNull(predicate: (Char) -> Boolean): Char? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/\*\*\n \* Returns a random character from this char sequence.\n \* \n \* @throws NoSuchElementException if this char sequence is empty.\n \*/\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.random(): Char {\n return random(Random)\n}\n\n/\*\*\n \* Returns a random character from this char sequence using the specified source of randomness.\n \* \n \* @throws NoSuchElementException if this char sequence is empty.\n \*/\n\n@SinceKotlin("1.3")\npublic fun CharSequence.random(random: Random): Char {\n if (isEmpty())\n throw NoSuchElementException("Char sequence is empty.")\n return get(random.nextInt(length))\n}\n\n/\*\*\n \* Returns a random character from this char sequence, or `null` if this char sequence is empty.\n \*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.randomOrNull(): Char? {\n return randomOrNull(Random)\n}\n\n/\*\*\n \* Returns a random character from this char sequence using the specified source of randomness, or `null` if this char sequence is empty.\n \*/\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun CharSequence.randomOrNull(random: Random): Char? {\n if (isEmpty())\n return null\n return

```

get(random.nextInt(length))\n\n/**\n * Returns the single character, or throws an exception if the char sequence
is empty or has more than one character.\n */\npublic fun CharSequence.single(): Char {\n    return when (length)
{\n        0 -> throw NoSuchElementException("Char sequence is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("Char sequence has more than one element.")\n    }\n}\n\n/**\n * Returns the single
character matching the given [predicate], or throws exception if there is no or more than one matching character.\n
*/\npublic inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("Char sequence contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Char sequence
contains no character matching the predicate.")\n    @SuppressWarnings("UNCHECKED_CAST")\n    return single as
Char\n}\n}\n\n/**\n * Returns single character, or `null` if the char sequence is empty or has more than one character.\n
*/\npublic fun CharSequence.singleOrNull(): Char? {\n    return if (length == 1) this[0] else null\n}\n}\n\n/**\n *
Returns the single character matching the given [predicate], or `null` if character was not found or more than one
character was found.\n */\npublic inline fun CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {\n
    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element))
{\n            if
(found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return
null\n    return
single\n}\n}\n\n/**\n * Returns a subsequence of this char sequence with the first [n] characters removed.\n */\n\n *
@throws IllegalArgumentException if [n] is negative.\n */\n\n * @sample samples.text.Strings.drop\n */\npublic fun
CharSequence.drop(n: Int): CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero."
}\n    return subSequence(n.coerceAtMost(length), length)\n}\n}\n\n/**\n * Returns a string with the first [n]
characters removed.\n */\n\n * @throws IllegalArgumentException if [n] is negative.\n */\n\n * @sample
samples.text.Strings.drop\n */\npublic fun String.drop(n: Int): String {\n    require(n >= 0) { "Requested character
count $n is less than zero." }\n    return substring(n.coerceAtMost(length))\n}\n}\n\n/**\n * Returns a subsequence of
this char sequence with the last [n] characters removed.\n */\n\n * @throws IllegalArgumentException if [n] is
negative.\n */\n\n * @sample samples.text.Strings.drop\n */\npublic fun CharSequence.dropLast(n: Int):
CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return take((length -
n).coerceAtLeast(0))\n}\n}\n\n/**\n * Returns a string with the last [n] characters removed.\n */\n\n * @throws
IllegalArgumentException if [n] is negative.\n */\n\n * @sample samples.text.Strings.drop\n */\npublic fun
String.dropLast(n: Int): String {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return
take((length - n).coerceAtLeast(0))\n}\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except last characters that satisfy the given [predicate].\n */\n\n * @sample samples.text.Strings.drop\n
*/\npublic inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in
lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return subSequence(0, index + 1)\n    return
""\n}\n}\n\n/**\n * Returns a string containing all characters except last characters that satisfy the given [predicate].\n
*/\n\n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropLastWhile(predicate: (Char) ->
Boolean): String {\n    for (index in lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return
substring(0, index + 1)\n    return ""\n}\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except first characters that satisfy the given [predicate].\n */\n\n * @sample samples.text.Strings.drop\n
*/\npublic inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in
this.indices)\n        if (!predicate(this[index]))\n            return subSequence(index, length)\n    return ""\n}\n}\n\n
/**\n * Returns a string containing all characters except first characters that satisfy the given [predicate].\n */\n\n *
@sample samples.text.Strings.drop\n */\npublic inline fun String.dropWhile(predicate: (Char) -> Boolean): String
{\n    for (index in this.indices)\n        if (!predicate(this[index]))\n            return substring(index)\n    return
""\n}\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence that
match the given [predicate].\n */\n\n * @sample samples.text.Strings.filter\n */\npublic inline fun
CharSequence.filter(predicate: (Char) -> Boolean): CharSequence {\n    return filterTo(StringBuilder(),
predicate)\n}\n}\n\n/**\n * Returns a string containing only those characters from the original string that match the
given [predicate].\n */\n\n * @sample samples.text.Strings.filter\n */\npublic inline fun String.filter(predicate: (Char) -

```

```

> Boolean): String {\n    return filterTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Returns a char sequence
containing only those characters from the original char sequence that match the given [predicate].\n * @param
[predicate] function that takes the index of a character and the character itself\n * and returns the result of predicate
evaluation on the character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic
inline fun CharSequence.filterIndexed(predicate: (index: Int, Char) -> Boolean): CharSequence {\n    return
filterIndexedTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those characters from the
original string that match the given [predicate].\n * @param [predicate] function that takes the index of a character
and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun String.filterIndexed(predicate: (index:
Int, Char) -> Boolean): String {\n    return filterIndexedTo(StringBuilder(), predicate).toString()\n}\n\n/**\n *
Appends all characters matching the given [predicate] to the given [destination].\n * @param [predicate] function
that takes the index of a character and the character itself\n * and returns the result of predicate evaluation on the
character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C :
Appendable> CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {\n
forEachIndexed { index, element ->\n    if (predicate(index, element)) destination.append(element)\n    }\n
return destination\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char
sequence that do not match the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic inline
fun CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {\n    return filterNotTo(StringBuilder(),
predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that do not match
the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic inline fun
String.filterNot(predicate: (Char) -> Boolean): String {\n    return filterNotTo(StringBuilder(),
predicate).toString()\n}\n\n/**\n * Appends all characters not matching the given [predicate] to the given
[destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C :
Appendable> CharSequence.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (element in this)
if (!predicate(element)) destination.append(element)\n    return destination\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : Appendable>
CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (index in 0 until length) {\n        val
element = get(index)\n        if (predicate(element)) destination.append(element)\n    }\n    return
destination\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence at the
specified range of [indices].\n */\npublic fun CharSequence.slice(indices: IntRange): CharSequence {\n    if
(indices.isEmpty()) return ""\n    return subSequence(indices)\n}\n\n/**\n * Returns a string containing characters
of the original string at the specified range of [indices].\n */\npublic fun String.slice(indices: IntRange): String {\n
if (indices.isEmpty()) return ""\n    return substring(indices)\n}\n\n/**\n * Returns a char sequence containing
characters of the original char sequence at specified [indices].\n */\npublic fun CharSequence.slice(indices:
Iterable<Int>): CharSequence {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return ""\n
val result = StringBuilder(size)\n    for (i in indices) {\n        result.append(get(i))\n    }\n    return result\n}\n\n/**\n * Returns a string containing characters of the original string at specified [indices].\n
*/\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun String.slice(indices: Iterable<Int>): String {\n    return (this as
CharSequence).slice(indices).toString()\n}\n\n/**\n * Returns a subsequence of this char sequence containing the
first [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun
CharSequence.take(n: Int): CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n
return subSequence(0, n.coerceAtMost(length))\n}\n\n/**\n * Returns a string containing the first [n]
characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun String.take(n: Int): String {\n    require(
n >= 0) { "Requested character count $n is less than zero." }\n    return substring(0,
n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this char sequence containing the last [n]

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characters from this char sequence, or the entire char sequence if this char sequence is shorter.

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    @throws IllegalArgumentException if [n] is negative.
    @sample samples.text.Strings.take
    CharSequence.takeLast(n: Int): CharSequence {
        require(n >= 0) { "Requested character count $n is less than zero." }
        val length = length
        return subSequence(length - n.coerceAtMost(length), length)
    }
    Returns a string containing the last [n] characters from this string, or the entire string if this string is shorter.
    @throws IllegalArgumentException if [n] is negative.
    @sample samples.text.Strings.take
    String.takeLast(n: Int): String {
        require(n >= 0) { "Requested character count $n is less than zero." }
        val length = length
        return substring(length - n.coerceAtMost(length))
    }
    Returns a subsequence of this char sequence containing last characters that satisfy the given [predicate].
    @sample samples.text.Strings.take
    public inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean): CharSequence {
        for (index in lastIndex downTo 0) {
            if (!predicate(this[index])) {
                return subSequence(index + 1, length)
            }
        }
        return subSequence(0, length)
    }
    Returns a string containing last characters that satisfy the given [predicate].
    @sample samples.text.Strings.take
    public inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String {
        for (index in lastIndex downTo 0) {
            if (!predicate(this[index])) {
                return substring(index + 1)
            }
        }
        return this
    }
    Returns a subsequence of this char sequence containing the first characters that satisfy the given [predicate].
    @sample samples.text.Strings.take
    public inline fun CharSequence.takeWhile(predicate: (Char) -> Boolean): CharSequence {
        for (index in 0 until length) {
            if (!predicate(get(index))) {
                return subSequence(0, index)
            }
        }
        return subSequence(0, length)
    }
    Returns a string containing the first characters that satisfy the given [predicate].
    @sample samples.text.Strings.take
    public inline fun String.takeWhile(predicate: (Char) -> Boolean): String {
        for (index in 0 until length) {
            if (!predicate(get(index))) {
                return substring(0, index)
            }
        }
        return this
    }
    Returns a char sequence with characters in reversed order.
    @public fun CharSequence.reversed(): CharSequence {
        return StringBuilder(this).reverse()
    }
    Returns a string with characters in reversed order.
    @kotlin.internal.InlineOnly
    public inline fun String.reversed(): String {
        return (this as CharSequence).reversed().toString()
    }
    Returns a [Map] containing key-value pairs provided by [transform] function applied to characters of the given char sequence.
    If any of two pairs would have the same key the last one gets added to the map.
    The returned map preserves the entry iteration order of the original char sequence.
    @sample samples.text.Strings.associate
    public inline fun <K, V> CharSequence.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {
        val capacity = mapCapacity(length).coerceAtLeast(16)
        return associateTo(LinkedHashMap<K, V>(capacity), transform)
    }
    Returns a [Map] containing the characters from the given char sequence indexed by the key returned from [keySelector] function applied to each character.
    If any two characters would have the same key returned by [keySelector] the last one gets added to the map.
    The returned map preserves the entry iteration order of the original char sequence.
    @sample samples.text.Strings.associateBy
    public inline fun <K> CharSequence.associateBy(keySelector: (Char) -> K): Map<K, Char> {
        val capacity = mapCapacity(length).coerceAtLeast(16)
        return associateByTo(LinkedHashMap<K, Char>(capacity), keySelector)
    }
    Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to characters of the given char sequence.
    If any two characters would have the same key returned by [keySelector] the last one gets added to the map.
    The returned map preserves the entry iteration order of the original char sequence.
    @sample samples.text.Strings.associateByWithValueTransform
    public inline fun <K, V> CharSequence.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {
        val capacity = mapCapacity(length).coerceAtLeast(16)
        return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)
    }
    Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each character of the given char sequence and value is the character itself.
    If any two characters would have the same key returned by [keySelector] the last one gets added to the map.
    @sample samples.text.Strings.associateByTo
    public inline fun <K,

```





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flatMapIndexedTo(ArrayList<R>(), transform)\n\n\n**\n * Appends all elements yielded from results of
[transform] function being invoked on each character\n * and its index in the original char sequence, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("\flatMapIndexedIterableTo")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapIndexedTo(destination: C, transform: (index:
Int, Char) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++,
element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n\n**\n * Appends all elements yielded from
results of [transform] function being invoked on each character of original char sequence, to the given
[destination].\n *\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapTo(destination: C,
transform: (Char) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n\n**\n * Groups characters of the original char sequence by
the key returned by the given [keySelector] function\n * applied to each character and returns a map where each
group key is associated with a list of corresponding characters.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n *\npublic inline fun <K>
CharSequence.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)\n}\n\n\n**\n * Groups values returned by the
[valueTransform] function applied to each character of the original char sequence\n * by the key returned by the
given [keySelector] function applied to the character\n * and returns a map where each group key is associated with
a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <K, V>
CharSequence.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n\n**\n * Groups
characters of the original char sequence by the key returned by the given [keySelector] function\n * applied to each
character and puts to the [destination] map each group key associated with a list of corresponding characters.\n * \n
*\n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharSequence.groupByTo(destination: M,
keySelector: (Char) -> K): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list =
destination.getOrPut(key) { ArrayList<Char>() }\n        list.add(element)\n    }\n    return destination\n}\n\n\n**\n *
Groups values returned by the [valueTransform] function applied to each character of the original char sequence\n *
by the key returned by the given [keySelector] function applied to the character\n * and puts to the [destination] map
each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n *
@sample samples.collections.Collections.Transformations.groupByKeysAndValues\n *\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K,
valueTransform: (Char) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list =
destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return
destination\n}\n\n\n**\n * Creates a [Grouping] source from a char sequence to be used later with one of group-and-
fold operations\n * using the specified [keySelector] function to extract a key from each character.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n *\n@SinceKotlin("1.1")\npublic inline fun <K>
CharSequence.groupingBy(crossinline keySelector: (Char) -> K): Grouping<Char, K> {\n    return object :
Grouping<Char, K> {\n        override fun sourceIterator(): Iterator<Char> = this@groupingBy.iterator()\n
        override fun keyOf(element: Char): K = keySelector(element)\n    }\n}\n\n\n**\n * Returns a list containing the
results of applying the given [transform] function\n * to each character in the original char sequence.\n * \n *
@sample samples.text.Strings.map\n *\npublic inline fun <R> CharSequence.map(transform: (Char) -> R):
List<R> {\n    return mapTo(ArrayList<R>(length), transform)\n}\n\n\n**\n * Returns a list containing the results of
applying the given [transform] function\n * to each character and its index in the original char sequence.\n *

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@param [transform] function that takes the index of a character and the character itself\n \* and returns the result of the transform applied to the character.\n \*  
 public inline fun <R> CharSequence.mapIndexed(transform: (index: Int, Char) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(length), transform)\n}\n \* Returns a list containing only the non-null results of applying the given [transform] function\n \* to each character and its index in the original char sequence.\n \*  
 @param [transform] function that takes the index of a character and the character itself\n \* and returns the result of the transform applied to the character.\n \*  
 public inline fun <R : Any> CharSequence.mapIndexedNotNull(transform: (index: Int, Char) -> R?): List<R> {\n return mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n \* Applies the given [transform] function to each character and its index in the original char sequence\n \* and appends only the non-null results to the given [destination].\n \*  
 @param [transform] function that takes the index of a character and the character itself\n \* and returns the result of the transform applied to the character.\n \*  
 public inline fun <R : Any, C : MutableCollection<in R>> CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n \* Applies the given [transform] function to each character and its index in the original char sequence\n \* and appends the results to the given [destination].\n \*  
 @param [transform] function that takes the index of a character and the character itself\n \* and returns the result of the transform applied to the character.\n \*  
 public inline fun <R, C : MutableCollection<in R>> CharSequence.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n \* Returns a list containing only the non-null results of applying the given [transform] function\n \* to each character in the original char sequence.\n \*  
 @sample samples.collections.Collections.Transformations.mapNotNull\n \*  
 public inline fun <R : Any> CharSequence.mapNotNull(transform: (Char) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(), transform)\n}\n \* Applies the given [transform] function to each character in the original char sequence\n \* and appends only the non-null results to the given [destination].\n \*  
 public inline fun <R : Any, C : MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n \* Applies the given [transform] function to each character of the original char sequence\n \* and appends the results to the given [destination].\n \*  
 public inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C, transform: (Char) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n \* Returns a lazy [Iterable] that wraps each character of the original char sequence\n \* into an [IndexedValue] containing the index of that character and the character itself.\n \*  
 public fun CharSequence.withIndex(): Iterable<IndexedValue<Char>> {\n return IndexingIterable { iterator() }\n}\n \*  
 Returns `true` if all characters match the given [predicate].\n \*  
 @sample samples.collections.Collections.Aggregates.all\n \*  
 public inline fun CharSequence.all(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n \*  
 Returns `true` if char sequence has at least one character.\n \*  
 @sample samples.collections.Collections.Aggregates.any\n \*  
 public fun CharSequence.any(): Boolean {\n return !isEmpty()\n}\n \*  
 Returns `true` if at least one character matches the given [predicate].\n \*  
 @sample samples.collections.Collections.Aggregates.anyWithPredicate\n \*  
 public inline fun CharSequence.any(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n \*  
 Returns the length of this char sequence.\n \*  
 @kotlin.internal.InlineOnly\n \*  
 public inline fun CharSequence.count(): Int {\n return length\n}\n \*  
 Returns the number of characters matching the given [predicate].\n \*  
 public inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n \*  
 Accumulates value starting with [initial] value and applying [operation] from left to right\n \* to current accumulator value and each character.\n \*  
 Returns the specified [initial] value if the char sequence is empty.\n \*  
 @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n \*  
 public inline fun <R> CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {\n var accumulator = initial\n for (element in

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this) accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each
character with its index in the original char sequence.\n * \n * Returns the specified [initial] value if the char
sequence is empty.\n * \n * @param [operation] function that takes the index of a character, current accumulator
value\n * and the character itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n    var index = 0\n    var
accumulator = initial\n    for (element in this) accumulator = operation(index++, accumulator, element)\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each character and current accumulator value.\n * \n * Returns the specified [initial] value if the char
sequence is empty.\n * \n * @param [operation] function that takes a character and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldRight(initial: R, operation:
(Char, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n
accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from right to left\n * to each character with its index in the
original char sequence and current accumulator value.\n * \n * Returns the specified [initial] value if the char
sequence is empty.\n * \n * @param [operation] function that takes the index of a character, the character itself\n *
and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
CharSequence.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n    var index =
lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each
character.\n */\npublic inline fun CharSequence.forEach(action: (Char) -> Unit): Unit {\n    for (element in this)
action(element)\n}\n\n/**\n * Performs the given [action] on each character, providing sequential index with the
character.\n * \n * @param [action] function that takes the index of a character and the character itself\n * and performs
the action on the character.\n */\npublic inline fun CharSequence.forEachIndexed(action: (index: Int, Char) -> Unit):
Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n@Deprecated("Use maxOrNull
instead.", ReplaceWith("this.maxOrNull()"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic fun CharSequence.max(): Char? {\n    return
maxOrNull()\n}\n\n@Deprecated("Use maxByOrNull instead.",
ReplaceWith("this.maxByOrNull(selector)"))\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince = "1.6")\npublic inline fun <R : Comparable<R>> CharSequence.maxBy(selector: (Char) ->
R): Char? {\n    return maxByOrNull(selector)\n}\n\n/**\n * Returns the first character yielding the largest value of
the given function or `null` if there are no characters.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin("1.4")\npublic inline fun <R :
Comparable<R>> CharSequence.maxByOrNull(selector: (Char) -> R): Char? {\n    if (isEmpty()) return null\n    var
maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the largest
value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOf(selector: (Char) ->
Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var maxValue = selector(this[0])\n    for
(i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each character in the char sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned
result is `NaN`.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOf(selector: (Char) ->
Float): Float {\n  if (isEmpty()) throw NoSuchElementException()\n  var maxValue = selector(this[0])\n  for (i
in 1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each character in the char sequence.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.maxOf(selector: (Char) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (maxValue < v) {\n
    maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value among all values
produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no
characters.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOfOrNull(selector:
(Char) -> Double): Double? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in
1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each character in the char sequence or `null` if there are no characters.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n *\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOfOrNull(selector:
(Char) -> Float): Float? {\n  if (isEmpty()) return null\n  var maxValue = selector(this[0])\n  for (i in
1..lastIndex) {\n    val v = selector(this[i])\n    maxValue = maxOf(maxValue, v)\n  }\n  return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each character in the char sequence or `null` if there are no characters.\n *\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.maxOfOrNull(selector: (Char) -> R): R? {\n  if (isEmpty()) return null\n  var maxValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (maxValue < v) {\n
    maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each character in the char sequence.\n
*\n * \n * @throws NoSuchElementException if the char sequence is empty.\n *\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.maxOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n  if (isEmpty()) throw NoSuchElementException()\n  var
maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n    maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each character in the char sequence or `null` if there are no characters.\n *\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharSequence.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n  if (isEmpty())
return null\n  var maxValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(maxValue, v) < 0) {\n    maxValue = v\n    }\n  }\n  return maxValue\n}\n\n/**\n * Returns the largest character or `null` if there are no characters.\n *\n*\n@SinceKotlin("1.4")\npublic fun
CharSequence.maxOrNull(): Char? {\n  if (isEmpty()) return null\n  var max = this[0]\n  for (i in 1..lastIndex)
{\n    val e = this[i]\n    if (max < e) max = e\n  }\n  return max\n}\n\n@Deprecated("Use maxWithOrNull
instead.", ReplaceWith("this.maxWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",

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errorSince = `1.5`, hiddenSince = `1.6`)
public fun CharSequence.maxWith(comparator: Comparator<in Char>): Char? {
    return maxOrNull(comparator)
}
Returns the first character having the largest value according to the provided [comparator] or `null` if there are no characters.

*SinceKotlin("1.4")
public fun CharSequence.maxOrNull(comparator: Comparator<in Char>): Char?
{
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}
@Deprecated("Use minOrNull instead.", ReplaceWith("this.minOrNull()"))
@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)
public fun CharSequence.min(): Char? {
    return minOrNull()
}
@Deprecated("Use minByOrNull instead.", ReplaceWith("this.minByOrNull(selector)"))
@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.5`, hiddenSince = `1.6`)
public inline fun <R : Comparable<R>> CharSequence.minBy(selector: (Char) -> R): Char? {
    return minByOrNull(selector)
}
Returns the first character yielding the smallest value of the given function or `null` if there are no characters.

*sample
samples.collections.Collections.Aggregates.minByOrNull
*SinceKotlin("1.4")
public inline fun <R : Comparable<R>> CharSequence.minByOrNull(selector: (Char) -> R): Char? {
    if (isEmpty()) return null
    var minElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return minElem
    var minValue = selector(minElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (minValue > v) {
            minElem = e
            minValue = v
        }
    }
    return minElem
}
Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the char sequence is empty.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOf(selector: (Char) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}
Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.
@throws NoSuchElementException if the char sequence is empty.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOf(selector: (Char) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}
Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence.
@throws NoSuchElementException if the char sequence is empty.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun <R : Comparable<R>> CharSequence.minOf(selector: (Char) -> R): R {
    if (isEmpty()) throw NoSuchElementException()
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        if (minValue > v) {
            minValue = v
        }
    }
    return minValue
}
Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@kotlin.internal.InlineOnly
public inline fun CharSequence.minOfOrNull(selector: (Char) -> Double): Double? {
    if (isEmpty()) return null
    var minValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        minValue = minOf(minValue, v)
    }
    return minValue
}
Returns the smallest value among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.
If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

*SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolution

```

```

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOrNull(selector:
(Char) -> Float): Float? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex)
{\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char
sequence or `null` if there are no characters.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.minOrNull(selector: (Char) -> R): R? {\n if (isEmpty()) return null\n var minValue =
selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n
minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each character in the char sequence.\n
*\n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each character in the char sequence or `null` if there are no characters.\n
*/\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharSequence.minOfOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest character or `null` if there are no characters.\n
*/\n@SinceKotlin("1.4")\npublic fun
CharSequence.minOrNull(): Char? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n@Deprecated("Use minWithOrNull
instead.", ReplaceWith("this.minWithOrNull(comparator)"))\n@DeprecatedSinceKotlin(warningSince = "1.4",
errorSince = "1.5", hiddenSince = "1.6")\npublic fun CharSequence.minWith(comparator: Comparator<in
Char>): Char? {\n return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first character having the smallest
value according to the provided [comparator] or `null` if there are no characters.\n
*/\n@SinceKotlin("1.4")\npublic fun CharSequence.minWithOrNull(comparator: Comparator<in Char>): Char?
{\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns `true` if the char sequence has
no characters.\n
*/\n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun
CharSequence.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if no characters match the given
[predicate].\n
*/\n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun
CharSequence.none(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Performs the given [action] on each character and returns the char sequence itself
afterwards.\n
*/\n@SinceKotlin("1.1")\npublic inline fun <S : CharSequence> S.onEach(action: (Char) -> Unit): S
{\n return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each
character, providing sequential index with the character,\n * and returns the char sequence itself afterwards.\n
*/\n * @param [action] function that takes the index of a character and the character itself\n * and performs the action on
the character.\n
*/\n@SinceKotlin("1.4")\npublic inline fun <S : CharSequence> S.onEachIndexed(action: (index:
Int, Char) -> Unit): S {\n return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with
the first character and applying [operation] from left to right\n * to current accumulator value and each character.\n
*/\n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n
*/\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n
*/\n * @param [operation] function

```

that takes current accumulator value and a character, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun
CharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {
    if (isEmpty()) throw
    UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character with its index in the original char sequence. Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduce
public inline fun
CharSequence.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {
    if (isEmpty())
    throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character with its index in the original char sequence. Returns `null` if the char sequence is empty.

@param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceOrNull
@SinceKotlin("1.4")
public inline fun
CharSequence.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {
    if (isEmpty())
    return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the first character and applying [operation] from left to right to current accumulator value and each character. Returns `null` if the char sequence is empty.

@param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.

```

@sample
samples.collections.Collections.Aggregates.reduceOrNull
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
public inline fun
CharSequence.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {
    if (isEmpty())
    return null
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value. Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.

```

@sample
samples.collections.Collections.Aggregates.reduceRight
public inline fun
CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
    throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value. Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way, please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

@param [operation] function that takes the index of a character, the character itself and current accumulator value, and calculates the next accumulator value.

```

@sample samples.collections.Collections.Aggregates.reduceRight
public inline fun
CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
    var index = lastIndex
    if (index < 0)
    throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
    }
    return accumulator
}

```

Accumulates value starting with the last

character and applying [operation] from right to left to each character with its index in the original char sequence and current accumulator value.

Returns `null` if the char sequence is empty.

@param [operation] function that takes the index of a character, the character itself and current accumulator value and calculates the next accumulator value.

sample samples.collections.Collections.Aggregates.reduceRightOrNull

```

*\/n@SinceKotlin("1.4")\npublic inline fun CharSequence.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the last character and applying [operation] from right to left to each character and current accumulator value.\n * Returns `null` if the char sequence is empty.\n * @param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun CharSequence.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {\n    var index = lastIndex\n    if (index < 0) return null\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin("1.4")\npublic inline fun <R> CharSequence.runningFold(initial: R, operation: (acc: R, Char) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(length + 1).apply { add(initial) }\n    var accumulator = initial\n    for (element in this) {\n        accumulator = operation(accumulator, element)\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character, its index in the original char sequence and current accumulator value that starts with [initial] value.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * @param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin("1.4")\npublic inline fun <R> CharSequence.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n    if (isEmpty()) return listOf(initial)\n    val result = ArrayList<R>(length + 1).apply { add(initial) }\n    var accumulator = initial\n    for (index in indices) {\n        accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character and current accumulator value that starts with the first character of this char sequence.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin("1.4")\npublic inline fun CharSequence.runningReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<Char>(length).apply { add(accumulator) }\n    for (index in 1 until length) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right to each character, its index in the original char sequence and current accumulator value that starts with the first character of this char sequence.\n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * @param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value.\n * @sample

```



```

samples.collections.Collections.Aggregates.runningReduce\n * \n@SinceKotlin("1.4")\npublic inline fun
CharSequence.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n  if
(isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<Char>(length).apply {
add(accumulator) }\n  for (index in 1 until length) {\n    accumulator = operation(index, accumulator,
this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive
accumulation values generated by applying [operation] from left to right\n * to each character and current
accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should
not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes current accumulator value and a character, and calculates the next accumulator value.\n * \n *
@sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R>
CharSequence.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n  return runningFold(initial,
operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation]
from left to right\n * to each character, its index in the original char sequence and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the
index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R>
CharSequence.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n  return
runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each character in the char sequence.\n * \n@Deprecated("Use sumOf instead.")\nReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharSequence.sumBy(selector: (Char) -> Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum +=
selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each character in the char sequence.\n * \n@Deprecated("Use sumOf instead.")\nReplaceWith("this.sumOf(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic inline fun
CharSequence.sumByDouble(selector: (Char) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfDouble")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Double): Double {\n  var sum: Double = 0.toDouble()\n  for (element in
this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfInt")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Int): Int {\n  var sum: Int = 0.toInt()\n  for (element in this) {\n    sum
+= selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfLong")\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.sumOf(selector: (Char) -> Long): Long {\n  var sum: Long = 0.toLong()\n  for (element in this) {\n
sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.\n
*\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName("sumOfUInt")\n@WasExperimental(ExperimentalUnsignedType
s::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> UInt): UInt {\n

```

```

var sum: UInt = 0.toUInt()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char
sequence.\n
*\n@\n@SinceKotlin("1.5")\n@\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@\n@OverloadResolution
ByLambdaReturnType\n@\n@kotlin.jvm.JvmName("sumOfULong")\n@\n@WasExperimental(ExperimentalUnsignedTy
pes::class)\n@\n@kotlin.internal.InlineOnly\n\npublic inline fun CharSequence.sumOf(selector: (Char) -> ULong):
ULong {\n  var sum: ULong = 0.toULong()\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Splits this char sequence into a list of strings each not exceeding the given [size].\n * \n *
The last string in the resulting list may have fewer characters than the given [size].\n * \n * @param size the number
of elements to take in each string, must be positive and can be greater than the number of elements in this char
sequence.\n * \n * @sample samples.text.Strings.chunked\n *\n@\n@SinceKotlin("1.2")\n\npublic fun
CharSequence.chunked(size: Int): List<String> {\n  return windowed(size, size, partialWindows =
true)\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and
applies the given [transform] function to an each.\n * \n * @return list of results of the [transform] applied to an
each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid
only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot
of it.\n * The last char sequence may have fewer characters than the given [size].\n * \n * @param size the number
of elements to take in each char sequence, must be positive and can be greater than the number of elements in this
char sequence.\n * \n * @sample samples.text.Strings.chunkedTransform\n *\n@\n@SinceKotlin("1.2")\n\npublic fun
<R> CharSequence.chunked(size: Int, transform: (CharSequence) -> R): List<R> {\n  return windowed(size, size,
partialWindows = true, transform = transform)\n}\n\n/**\n * Splits this char sequence into a sequence of strings
each not exceeding the given [size].\n * \n * The last string in the resulting sequence may have fewer characters than
the given [size].\n * \n * @param size the number of elements to take in each string, must be positive and can be
greater than the number of elements in this char sequence.\n * \n * @sample
samples.collections.Collections.Transformations.chunked\n *\n@\n@SinceKotlin("1.2")\n\npublic fun
CharSequence.chunkedSequence(size: Int): Sequence<String> {\n  return chunkedSequence(size) { it.toString()
}\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and
applies the given [transform] function to an each.\n * \n * @return - sequence of results of the [transform] applied to
an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is
valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a
snapshot of it.\n * The last char sequence may have fewer characters than the given [size].\n * \n * @param size the
number of elements to take in each char sequence, must be positive and can be greater than the number of elements
in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransformToSequence\n
*\n@\n@SinceKotlin("1.2")\n\npublic fun <R> CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -
> R): Sequence<R> {\n  return windowedSequence(size, size, partialWindows = true, transform =
transform)\n}\n\n/**\n * Splits the original char sequence into pair of char sequences,\n * where *first* char
sequence contains characters for which [predicate] yielded `true`,\n * while *second* char sequence contains
characters for which [predicate] yielded `false`.\n * \n * @sample samples.text.Strings.partition\n *\n\npublic inline
fun CharSequence.partition(predicate: (Char) -> Boolean): Pair<CharSequence, CharSequence> {\n  val first =
StringBuilder()\n  val second = StringBuilder()\n  for (element in this) {\n    if (predicate(element)) {\n
first.append(element)\n    } else {\n      second.append(element)\n    }\n  }\n  return Pair(first,
second)\n}\n\n/**\n * Splits the original string into pair of strings,\n * where *first* string contains characters for
which [predicate] yielded `true`,\n * while *second* string contains characters for which [predicate] yielded
`false`.\n * \n * @sample samples.text.Strings.partition\n *\n\npublic inline fun String.partition(predicate: (Char) ->
Boolean): Pair<String, String> {\n  val first = StringBuilder()\n  val second = StringBuilder()\n  for (element in
this) {\n    if (predicate(element)) {\n      first.append(element)\n    } else {\n
second.append(element)\n    }\n  }\n  return Pair(first.toString(), second.toString())\n}\n\n/**\n * Returns a list
of snapshots of the window of the given [size]\n * sliding along this char sequence with the given [step], where

```

each snapshot is a string. Several last strings may have fewer characters than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

@param size the number of elements to take in each window  
 @param step the number of elements to move the window forward by on an each step, by default 1  
 @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

@sample samples.collections.Sequences.Transformations.takeWindows

```

@SinceKotlin("1.2")
public fun CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {
    return windowed(size, step, partialWindows) { it.toString() }
}


```

Returns a list of results of applying the given [transform] function to an each char sequence representing a view over the window of the given [size] sliding along this char sequence with the given [step]. Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function. You should not store it or allow it to escape in some way, unless you made a snapshot of it. Several last char sequences may have fewer characters than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

@param size the number of elements to take in each window  
 @param step the number of elements to move the window forward by on an each step, by default 1  
 @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

@sample samples.collections.Sequences.Transformations.averageWindows

```

@SinceKotlin("1.2")
public fun <R> CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): List<R> {
    checkWindowSizeStep(size, step)
    val thisSize = this.length
    val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1
    val result = ArrayList<R>(resultCapacity)
    var index = 0
    while (index in 0 until thisSize) {
        val end = index + size
        val coercedEnd = if (end < 0 || end > thisSize) { if (partialWindows) thisSize else break } else end
        result.add(transform(subSequence(index, coercedEnd)))
        index += step
    }
    return result
}


```

Returns a sequence of snapshots of the window of the given [size] sliding along this char sequence with the given [step], where each snapshot is a string. Several last strings may have fewer characters than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

@param size the number of elements to take in each window  
 @param step the number of elements to move the window forward by on an each step, by default 1  
 @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

@sample samples.collections.Sequences.Transformations.takeWindows

```

@SinceKotlin("1.2")
public fun CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<String> {
    return windowedSequence(size, step, partialWindows) { it.toString() }
}


```

Returns a sequence of results of applying the given [transform] function to an each char sequence representing a view over the window of the given [size] sliding along this char sequence with the given [step]. Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function. You should not store it or allow it to escape in some way, unless you made a snapshot of it. Several last char sequences may have fewer characters than the given [size]. Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.

@param size the number of elements to take in each window  
 @param step the number of elements to move the window forward by on an each step, by default 1  
 @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved

@sample samples.collections.Sequences.Transformations.averageWindows

```

@SinceKotlin("1.2")
public fun <R> CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): Sequence<R> {
    checkWindowSizeStep(size, step)
    val windows = if (partialWindows) indices else 0 until length - size + 1 step step
    return windows.asSequence().map { index ->
        val end = index + size
        val coercedEnd = if (end < 0 || end > length) length else end
        transform(subSequence(index, coercedEnd))
    }
}


```

Returns a list of pairs built from the characters of `this` and the [other] char sequences with the same index. The returned list has length of the shortest char



the default locale.\n \* or the original string if it's empty or already starts with a lower case letter.\n \*\n \* @sample samples.text.Strings.decapitalize\n \*\n @Deprecated("Use replaceFirstChar instead.\n", ReplaceWith("replaceFirstChar { it.lowercase() }"))\n @DeprecatedSinceKotlin(warningSince = "1.5")\n public expect fun String.decapitalize(): String\n\n /\*\*\n \* Returns a sub sequence of this char sequence having leading and trailing characters matching the [predicate] removed.\n \*\n public inline fun CharSequence.trim(predicate: (Char) -> Boolean): CharSequence {\n var startIndex = 0\n var endIndex = length - 1\n var startFound = false\n\n while (startIndex <= endIndex) {\n val index = if (!startFound) startIndex else endIndex\n val match = predicate(this[index])\n\n if (!startFound) {\n if (!match)\n startFound = true\n else\n startIndex += 1\n } else {\n if (!match)\n break\n else\n endIndex -= 1\n }\n }\n\n return subSequence(startIndex, endIndex + 1)\n}\n\n /\*\*\n \* Returns a string having leading and trailing characters matching the [predicate] removed.\n \*\n public inline fun String.trim(predicate: (Char) -> Boolean): String =\n (this as CharSequence).trim(predicate).toString()\n\n /\*\*\n \* Returns a sub sequence of this char sequence having leading characters matching the [predicate] removed.\n \*\n public inline fun CharSequence.trimStart(predicate: (Char) -> Boolean): CharSequence {\n for (index in this.indices)\n if (!predicate(this[index]))\n return subSequence(index, length)\n\n return ""\n}\n\n /\*\*\n \* Returns a string having leading characters matching the [predicate] removed.\n \*\n public inline fun String.trimStart(predicate: (Char) -> Boolean): String =\n (this as CharSequence).trimStart(predicate).toString()\n\n /\*\*\n \* Returns a sub sequence of this char sequence having trailing characters matching the [predicate] removed.\n \*\n public inline fun CharSequence.trimEnd(predicate: (Char) -> Boolean): CharSequence {\n for (index in this.indices.reversed())\n if (!predicate(this[index]))\n return subSequence(0, index + 1)\n\n return ""\n}\n\n /\*\*\n \* Returns a string having trailing characters matching the [predicate] removed.\n \*\n public inline fun String.trimEnd(predicate: (Char) -> Boolean): String =\n (this as CharSequence).trimEnd(predicate).toString()\n\n /\*\*\n \* Returns a sub sequence of this char sequence having leading and trailing characters from the [chars] array removed.\n \*\n public fun CharSequence.trim(vararg chars: Char): CharSequence = trim { it in chars }\n\n /\*\*\n \* Returns a string having leading and trailing characters from the [chars] array removed.\n \*\n public fun String.trim(vararg chars: Char): String = trim { it in chars }\n\n /\*\*\n \* Returns a sub sequence of this char sequence having leading characters from the [chars] array removed.\n \*\n public fun CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart { it in chars }\n\n /\*\*\n \* Returns a string having leading characters from the [chars] array removed.\n \*\n public fun String.trimStart(vararg chars: Char): String = trimStart { it in chars }\n\n /\*\*\n \* Returns a sub sequence of this char sequence having trailing characters from the [chars] array removed.\n \*\n public fun CharSequence.trimEnd(vararg chars: Char): CharSequence = trimEnd { it in chars }\n\n /\*\*\n \* Returns a string having trailing characters from the [chars] array removed.\n \*\n public fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }\n\n /\*\*\n \* Returns a sub sequence of this char sequence having leading and trailing whitespace removed.\n \*\n public fun CharSequence.trim(): CharSequence = trim(Char::isWhitespace)\n\n /\*\*\n \* Returns a string having leading and trailing whitespace removed.\n \*\n @kotlin.internal.InlineOnly\n public inline fun String.trim(): String = (this as CharSequence).trim().toString()\n\n /\*\*\n \* Returns a sub sequence of this char sequence having leading whitespace removed.\n \*\n public fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)\n\n /\*\*\n \* Returns a string having leading whitespace removed.\n \*\n @kotlin.internal.InlineOnly\n public inline fun String.trimStart(): String = (this as CharSequence).trimStart().toString()\n\n /\*\*\n \* Returns a sub sequence of this char sequence having trailing whitespace removed.\n \*\n public fun CharSequence.trimEnd(): CharSequence = trimEnd(Char::isWhitespace)\n\n /\*\*\n \* Returns a string having trailing whitespace removed.\n \*\n @kotlin.internal.InlineOnly\n public inline fun String.trimEnd(): String = (this as CharSequence).trimEnd().toString()\n\n /\*\*\n \* Returns a char sequence with content of this char sequence padded at the beginning\n \* to the specified [length] with the specified character or space.\n \*\n \* @param length the desired string length.\n \* @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.\n \* @return Returns a char sequence of length at least [length] consisting of `this` char sequence prepended with [padChar] as many times\n \* as are necessary to reach that length.\n \*\n @sample samples.text.Strings.padStart\n \*\n public fun CharSequence.padStart(length: Int, padChar: Char = ' '):

```

CharSequence {
    if (length < 0)
        throw IllegalArgumentException("Desired length $length is less than zero.")
    if (length <= this.length)
        return this.subSequence(0, this.length)
    val sb =
    StringBuilder(length)
    for (i in 1..(length - this.length))
        sb.append(padChar)
    sb.append(this)
    return sb
}

/**
 * Pads the string to the specified [length] at the beginning with the specified character or space.
 *
 * @param length the desired string length.
 * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.
 * @return Returns a string of length at least [length] consisting of `this` string prepended with [padChar] as many times as are necessary to reach that length.
 *
 * @sample samples.text.Strings.padStart
 */
public fun String.padStart(length: Int, padChar: Char = ' '): String =
    (this as CharSequence).padStart(length, padChar).toString()

/**
 * Returns a char sequence with content of this char sequence padded at the end to the specified [length] with the specified character or space.
 *
 * @param length the desired string length.
 * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.
 * @return Returns a char sequence of length at least [length] consisting of `this` char sequence appended with [padChar] as many times as are necessary to reach that length.
 *
 * @sample samples.text.Strings.padEnd
 */
public fun CharSequence.padEnd(length: Int, padChar: Char = ' '): CharSequence {
    if (length < 0)
        throw IllegalArgumentException("Desired length $length is less than zero.")
    if (length <= this.length)
        return this.subSequence(0, this.length)
    val sb =
    StringBuilder(length)
    sb.append(this)
    for (i in 1..(length - this.length))
        sb.append(padChar)
    return sb
}

/**
 * Pads the string to the specified [length] at the end with the specified character or space.
 *
 * @param length the desired string length.
 * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.
 * @return Returns a string of length at least [length] consisting of `this` string appended with [padChar] as many times as are necessary to reach that length.
 *
 * @sample samples.text.Strings.padEnd
 */
public fun String.padEnd(length: Int, padChar: Char = ' '): String =
    (this as CharSequence).padEnd(length, padChar).toString()

/**
 * Returns `true` if this nullable char sequence is either `null` or empty.
 *
 * @sample samples.text.Strings.stringIsNullOrEmpty
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence?.isNullOrEmpty(): Boolean {
    contract {
        returns(false) implies (this@isNullOrEmpty != null)
    }
    return this == null || this.length == 0
}

/**
 * Returns `true` if this char sequence is empty (contains no characters).
 *
 * @sample samples.text.Strings.stringIsEmpty
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.isEmpty(): Boolean = length == 0

/**
 * Returns `true` if this char sequence is not empty.
 *
 * @sample samples.text.Strings.stringIsNotEmpty
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.isNotEmpty(): Boolean = length > 0

// implemented differently in JVM and JS
public fun String.isBlank(): Boolean = length() == 0 || all { it.isWhitespace() }

/**
 * Returns `true` if this char sequence is not empty and contains some characters except of whitespace characters.
 *
 * @sample samples.text.Strings.stringIsNotBlank
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence.isNotBlank(): Boolean = !isBlank()

/**
 * Returns `true` if this nullable char sequence is either `null` or empty or consists solely of whitespace characters.
 *
 * @sample samples.text.Strings.stringOrNullBlank
 */
@kotlin.internal.InlineOnly
public inline fun CharSequence?.isNullOrBlank(): Boolean {
    contract {
        returns(false) implies (this@isNullOrBlank != null)
    }
    return this == null || this.isBlank()
}

/**
 * Iterator for characters of the given char sequence.
 *
 * @public operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {
 *     private var index = 0
 *     public override fun nextChar(): Char = get(index++)
 *     public override fun hasNext(): Boolean = index < length
 * }
 *
 * Returns the string if it is not `null`, or the empty string otherwise.
 *
 * @sample samples.text.Strings.stringIfEmpty
 */
@kotlin.internal.InlineOnly
public inline fun String?.orEmpty(): String = this ?: ""

/**
 * Returns this char sequence if it's not empty or the result of calling [defaultValue] function if the char sequence is empty.
 *
 * @sample samples.text.Strings.stringIfEmpty
 */
@kotlin.internal.InlineOnly
public inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : CharSequence, C : R =
    if (isEmpty()) defaultValue() else this

/**
 * Returns this char sequence if it is not empty and doesn't consist solely of whitespace characters, or the result of calling
 */

```

```

[defaultValue] function otherwise.\n * \n * @sample samples.text.Strings.stringIfBlank\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifBlank(defaultValue: () -> R):
R where C : CharSequence, C : R =\n    if (isBlank()) defaultValue() else this\n\n/**\n * Returns the range of valid
character indices for this char sequence.\n */\npublic val CharSequence.indices: IntRange\n    get() = 0..length -
1\n\n/**\n * Returns the index of the last character in the char sequence or -1 if it is empty.\n */\npublic val
CharSequence.lastIndex: Int\n    get() = this.length - 1\n\n/**\n * Returns `true` if this CharSequence has Unicode
surrogate pair at the specified [index].\n */\npublic fun CharSequence.hasSurrogatePairAt(index: Int): Boolean {\n
return index in 0..length - 2\n        && this[index].isHighSurrogate()\n            && this[index +
1].isLowSurrogate()\n}\n\n/**\n * Returns a substring specified by the given [range] of indices.\n */\npublic fun
String.substring(range: IntRange): String = substring(range.start, range.endInclusive + 1)\n\n/**\n * Returns a
subsequence of this char sequence specified by the given [range] of indices.\n */\npublic fun
CharSequence.subSequence(range: IntRange): CharSequence = subSequence(range.start, range.endInclusive +
1)\n\n/**\n * Returns a subsequence of this char sequence.\n */\n * This extension is chosen only for invocation with
old-named parameters.\n * Replace parameter names with the same as those of [CharSequence.subSequence].\n
*\n@kotlin.internal.InlineOnly\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false
warning\n@Deprecated("Use parameters named startIndex and endIndex.", ReplaceWith("subSequence(startIndex
= start, endIndex = end)"))\npublic inline fun String.subSequence(start: Int, end: Int): CharSequence =
subSequence(start, end)\n\n/**\n * Returns a substring of chars from a range of this char sequence starting at the
[startIndex] and ending right before the [endIndex].\n */\n * @param startIndex the start index (inclusive).\n *
@param endIndex the end index (exclusive). If not specified, the length of the char sequence is used.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.substring(startIndex: Int, endIndex: Int = length):
String = subSequence(startIndex, endIndex).toString()\n\n/**\n * Returns a substring of chars at indices from the
specified [range] of this char sequence.\n */\npublic fun CharSequence.substring(range: IntRange): String =
subSequence(range.start, range.endInclusive + 1).toString()\n\n/**\n * Returns a substring before the first
occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which
defaults to the original string.\n */\npublic fun String.substringBefore(delimiter: Char, missingDelimiterValue:
String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(0, index)\n}\n\n/**\n * Returns a substring before the first occurrence of [delimiter].\n * If the string does
not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.substringBefore(delimiter: String, missingDelimiterValue: String = this): String {\n    val index =
indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns
a substring after the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringAfter(delimiter:
Char, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1)
missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the first occurrence
of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n */\npublic fun String.substringAfter(delimiter: String, missingDelimiterValue: String = this):
String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)\n}\n\n/**\n * Returns a substring before the last occurrence of [delimiter].\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic
fun String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this): String {\n    val index =
lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n *
Returns a substring before the last occurrence of [delimiter].\n * If the string does not contain the delimiter,
returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringBeforeLast(
delimiter: String, missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return
if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring after the last
occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which
defaults to the original string.\n */\npublic fun String.substringAfterLast(delimiter: Char, missingDelimiterValue:
String = this):

```

```

String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else
        substring(index + 1, length)
}

/** Returns a substring after the last occurrence of [delimiter].
 * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.
 */
public fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else substring(index +
        delimiter.length, length)
}

/** Returns a char sequence with content of this char sequence where its part at
 * the given range is replaced with the [replacement] char sequence.
 * @param startIndex the index of the first character to be replaced.
 * @param endIndex the index of the first character after the replacement to keep in the
 * string.
 */
public fun CharSequence.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence):
    CharSequence {
    if (endIndex < startIndex)
        throw IndexOutOfBoundsException("End index ($endIndex)
        is less than start index ($startIndex).")
    val sb = StringBuilder()
    sb.appendRange(this, 0, startIndex)
    sb.append(replacement)
    sb.appendRange(this, endIndex, length)
    return sb
}

/** Replaces the part of
 * the string at the given range with the [replacement] char sequence.
 * @param startIndex the index of the first
 * character to be replaced.
 * @param endIndex the index of the first character after the replacement to keep in the
 * string.
 */
@kotlin.internal.InlineOnly
public inline fun String.replaceRange(startIndex: Int, endIndex: Int,
    replacement: CharSequence): String =
    (this as CharSequence).replaceRange(startIndex, endIndex,
    replacement).toString()

/** Returns a char sequence with content of this char sequence where its part at the
 * given [range] is replaced with the [replacement] char sequence.
 * The end index of the [range] is included
 * in the part to be replaced.
 */
public fun CharSequence.replaceRange(range: IntRange, replacement:
    CharSequence): CharSequence =
    replaceRange(range.start, range.endInclusive + 1, replacement)

/** Replace the part of string at the given [range] with the [replacement] string.
 * The end index of the [range] is
 * included in the part to be replaced.
 */
@kotlin.internal.InlineOnly
public inline fun String.replaceRange(range:
    IntRange, replacement: CharSequence): String =
    (this as CharSequence).replaceRange(range,
    replacement).toString()

/** Returns a char sequence with content of this char sequence where its part at the
 * given range is removed.
 * @param startIndex the index of the first character to be removed.
 * @param
 * endIndex the index of the first character after the removed part to keep in the string.
 * [endIndex] is not
 * included in the removed part.
 */
public fun CharSequence.removeRange(startIndex: Int, endIndex: Int):
    CharSequence {
    if (endIndex < startIndex)
        throw IndexOutOfBoundsException("End index ($endIndex)
        is less than start index ($startIndex).")
    if (endIndex == startIndex)
        return this.subSequence(0,
        length)
    val sb = StringBuilder(length - (endIndex - startIndex))
    sb.appendRange(this, 0, startIndex)
    sb.appendRange(this, endIndex, length)
    return sb
}

/** Removes the part of a string at a given range.
 * @param startIndex the index of the first character to be removed.
 * @param
 * endIndex the index of the first character after the removed part to keep in the string.
 * [endIndex] is not included in the removed part.
 */
@kotlin.internal.InlineOnly
public inline fun String.removeRange(startIndex: Int, endIndex: Int): String =
    (this as CharSequence).removeRange(startIndex, endIndex).toString()

/** Returns a char sequence with
 * content of this char sequence where its part at the given [range] is removed.
 * The end index of the [range] is
 * included in the removed part.
 */
public fun CharSequence.removeRange(range: IntRange): CharSequence =
    removeRange(range.start, range.endInclusive + 1)

/** Removes the part of a string at the given [range].
 * The end index of the [range] is included in the removed part.
 */
@kotlin.internal.InlineOnly
public inline fun
    String.removeRange(range: IntRange): String =
    (this as CharSequence).removeRange(range).toString()

/** If this char sequence starts with the given [prefix], returns a new char sequence
 * with the prefix removed.
 * Otherwise, returns a new char sequence with the same characters.
 */
public fun
    CharSequence.removePrefix(prefix: CharSequence): CharSequence {
    if (startsWith(prefix)) {
        return
        subSequence(prefix.length, length)
    }
    return subSequence(0, length)
}

/** If this string starts with the
 * given [prefix], returns a copy of this string with the prefix removed. Otherwise, returns this string.
 */
public fun String.removePrefix(prefix: CharSequence): String {
    if (startsWith(prefix)) {
        return
        substring(prefix.length)
    }
    return this
}

/** If this char sequence ends with the given [suffix], returns
 * a new char sequence with the suffix removed. Otherwise, returns a new char sequence with the same
 */

```



```

characters.\n */\npublic fun CharSequence.removeSuffix(suffix: CharSequence): CharSequence {\n    if
(endsWith(suffix)) {\n        return subSequence(0, length - suffix.length)\n    }\n    return subSequence(0,
length)\n}\n\n/**\n * If this string ends with the given [suffix], returns a copy of this string\n * with the suffix
removed. Otherwise, returns this string.\n */\npublic fun String.removeSuffix(suffix: CharSequence): String {\n    if
(endsWith(suffix)) {\n        return substring(0, length - suffix.length)\n    }\n    return this\n}\n\n/**\n * When this
char sequence starts with the given [prefix] and ends with the given [suffix],\n * returns a new char sequence having
both the given [prefix] and [suffix] removed.\n * Otherwise returns a new char sequence with the same characters.\n
*/\npublic fun CharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {\n    if
((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n        return
subSequence(prefix.length, length - suffix.length)\n    }\n    return subSequence(0, length)\n}\n\n/**\n * Removes
from a string both the given [prefix] and [suffix] if and only if\n * it starts with the [prefix] and ends with the
[suffix].\n * Otherwise returns this string unchanged.\n */\npublic fun String.removeSurrounding(prefix:
CharSequence, suffix: CharSequence): String {\n    if ((length >= prefix.length + suffix.length) &&
startsWith(prefix) && endsWith(suffix)) {\n        return substring(prefix.length, length - suffix.length)\n    }\n
return this\n}\n\n/**\n * When this char sequence starts with and ends with the given [delimiter],\n * returns a new
char sequence having this [delimiter] removed both from the start and end.\n * Otherwise returns a new char
sequence with the same characters.\n */\npublic fun CharSequence.removeSurrounding(delimiter: CharSequence):
CharSequence = removeSurrounding(delimiter, delimiter)\n\n/**\n * Removes the given [delimiter] string from both
the start and the end of this string\n * if and only if it starts with and ends with the [delimiter].\n * Otherwise
returns this string unchanged.\n */\npublic fun String.removeSurrounding(delimiter: CharSequence): String =
removeSurrounding(delimiter, delimiter)\n\n/**\n * Replace part of string before the first occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter: Char,
replacement: String, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if
(index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string
before the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the
delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun
String.replaceBefore(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n    val
index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(0, index,
replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given delimiter with the [replacement]
string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n */\npublic fun String.replaceAfter(delimiter: Char, replacement: String, missingDelimiterValue:
String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue
else replaceRange(index + 1, length, replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of
given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfter(delimiter: String,
replacement: String, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return
if (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n *
Replace part of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic
fun String.replaceAfterLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n
    val index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else replaceRange(index +
delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given
delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfterLast(delimiter:
Char, replacement: String, missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n
return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n}\n\n/**\n *
Replace part of string before the last occurrence of given delimiter with the [replacement] string.\n * If the string

```

does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.replaceBeforeLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)
}

```

\* Replace part of string before the last occurrence of given delimiter with the [replacement] string.

\* If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.

```

public fun String.replaceBeforeLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)
}

```

// public fun String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean): String // JVM- and JS-specific

```

public fun String.replace(oldValue: String, newValue: String, ignoreCase: Boolean): String // JVM- and JS-specific

```

\* Returns a new string obtained by replacing each substring of this char sequence that matches the given regular expression with the given [replacement].

\* The [replacement] can consist of any combination of literal text and \$-substitutions. To treat the replacement string literally escape it with the [kotlin.text.Regex.Companion.escapeReplacement] method.

```

@kotlin.internal.InlineOnly
public inline fun CharSequence.replace(regex: Regex, replacement: String): String = regex.replace(this, replacement)

```

\* Returns a new string obtained by replacing each substring of this char sequence that matches the given regular expression with the result of the given function [transform] that takes [MatchResult] and returns a string to be used as a replacement for that match.

```

@kotlin.internal.InlineOnly
public inline fun CharSequence.replace(regex: Regex, noinline transform: (MatchResult) -> CharSequence): String = regex.replace(this, transform)

```

\* Replaces the first occurrence of the given regular expression [regex] in this char sequence with specified [replacement] expression.

\* @param replacement A replacement expression that can include substitutions. See [Regex.replaceFirst] for details.

```

@kotlin.internal.InlineOnly
public inline fun CharSequence.replaceFirst(regex: Regex, replacement: String): String = regex.replaceFirst(this, replacement)

```

\* Returns a copy of this string having its first character replaced with the result of the specified [transform], or the original string if it's empty.

\* @param transform function that takes the first character and returns the result of the transform applied to the character.

\* @sample samples.text.Strings.replaceFirstChar

```

@SinceKotlin("1.5")
@WasExperimental(ExperimentalStdlibApi::class)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@JvmName("replaceFirstCharWithChar")
@kotlin.internal.InlineOnly
public inline fun String.replaceFirstChar(transform: (Char) -> Char): String {
    return if (isEmpty()) transform(this[0]) + substring(1) else this
}

```

\* Returns a copy of this string having its first character replaced with the result of the specified [transform], or the original string if it's empty.

\* @param transform function that takes the first character and returns the result of the transform applied to the character.

\* @sample samples.text.Strings.replaceFirstChar

```

@SinceKotlin("1.5")
@WasExperimental(ExperimentalStdlibApi::class)
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@JvmName("replaceFirstCharWithCharSequence")
@kotlin.internal.InlineOnly
public inline fun String.replaceFirstChar(transform: (Char) -> CharSequence): String {
    return if (isEmpty()) transform(this[0]).toString() + substring(1) else this
}

```

\* Returns `true` if this char sequence matches the given regular expression.

```

@kotlin.internal.InlineOnly
public inline infix fun CharSequence.matches(regex: Regex): Boolean = regex.matches(this)

```

\* Implementation of [regionMatches] for CharSequences.

\* Invoked when it's already known that arguments are not Strings, so that no additional type checks are performed.

```

internal fun CharSequence.regionMatchesImpl(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase: Boolean): Boolean {
    if ((otherOffset < 0) || (thisOffset < 0) || (thisOffset > this.length - length) || (otherOffset > other.length - length)) {
        return false
    }
    for (index in 0 until length) {
        if (!this[thisOffset + index].equals(other[otherOffset + index], ignoreCase)) {
            return false
        }
    }
    return true
}

```

\* Returns `true` if this char sequence starts with the specified character.

```

public fun CharSequence.startsWith(char: Char, ignoreCase: Boolean = false): Boolean = this.length > 0 && this[0].equals(char, ignoreCase)

```

\* Returns `true` if this char sequence ends with the specified character.

```

*^public fun CharSequence.endsWith(char: Char, ignoreCase: Boolean = false): Boolean {
    this.length > 0 &&
    this[lastIndex].equals(char, ignoreCase)
}
* Returns `true` if this char sequence starts with the specified
prefix.
*^public fun CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {
    if (!ignoreCase && this is String && prefix is String)
        return this.startsWith(prefix)
    else
        return
        regionMatchesImpl(0, prefix, 0, prefix.length, ignoreCase)
}
* Returns `true` if a substring of this char
sequence starting at the specified offset [startIndex] starts with the specified prefix.
*^public fun
CharSequence.startsWith(prefix: CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {
    if
    (!ignoreCase && this is String && prefix is String)
        return this.startsWith(prefix, startIndex)
    else
        return
        regionMatchesImpl(startIndex, prefix, 0, prefix.length, ignoreCase)
}
* Returns `true` if this char
sequence ends with the specified suffix.
*^public fun CharSequence.endsWith(suffix: CharSequence,
ignoreCase: Boolean = false): Boolean {
    if (!ignoreCase && this is String && suffix is String)
        return
        this.endsWith(suffix)
    else
        return
        regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length,
        ignoreCase)
}
// common prefix and suffix
* Returns the longest string `prefix` such that this char
sequence and [other] char sequence both start with this prefix,
* taking care not to split surrogate pairs.
* If this
and [other] have no common prefix, returns the empty string.
* @param ignoreCase `true` to ignore character
case when matching a character. By default `false`.
* @sample samples.text.Strings.commonPrefixWith
*^public fun CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {
    val shortestLength = minOf(this.length, other.length)
    var i = 0
    while (i < shortestLength &&
    this[i].equals(other[i], ignoreCase = ignoreCase)) {
        i++
    }
    if (this.hasSurrogatePairAt(i - 1) ||
    other.hasSurrogatePairAt(i - 1)) {
        i--
    }
    return subSequence(0, i).toString()
}
* Returns the
longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix,
* taking
care not to split surrogate pairs.
* If this and [other] have no common suffix, returns the empty string.
*
* @param ignoreCase `true` to ignore character case when matching a character. By default `false`.
* @sample
samples.text.Strings.commonSuffixWith
*^public fun CharSequence.commonSuffixWith(other: CharSequence,
ignoreCase: Boolean = false): String {
    val thisLength = this.length
    val otherLength = other.length
    val
    shortestLength = minOf(thisLength, otherLength)
    var i = 0
    while (i < shortestLength && this[thisLength -
    i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {
        i++
    }
    if
    (this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {
        i--
    }
    return subSequence(thisLength - i, thisLength).toString()
}
// indexOfAny()
* Finds the index of the
first occurrence of any of the specified [chars] in this char sequence,
* starting from the specified [startIndex] and
optionally ignoring the case.
* @param ignoreCase `true` to ignore character case when matching a character.
By default `false`.
* @return An index of the first occurrence of matched character from [chars] or -1 if none of
[chars] are found.
*^public fun CharSequence.indexOfAny(chars: CharArray, startIndex: Int = 0, ignoreCase:
Boolean = false): Int {
    if (!ignoreCase && chars.size == 1 && this is String) {
        val char = chars.single()
        return
        nativeIndexOf(char, startIndex)
    }
    for (index in startIndex.coerceAtLeast(0)..lastIndex) {
        val
        charAtIndex = get(index)
        if (chars.any { it.equals(charAtIndex, ignoreCase) })
            return index
    }
    return -1
}
* Finds the index of the last occurrence of any of the specified [chars] in this char sequence,
*
starting from the specified [startIndex] and optionally ignoring the case.
* @param startIndex The index of
character to start searching at. The search proceeds backward toward the beginning of the string.
* @param
ignoreCase `true` to ignore character case when matching a character. By default `false`.
* @return An index of
the last occurrence of matched character from [chars] or -1 if none of [chars] are found.
*^public fun
CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {
    if
    (!ignoreCase && chars.size == 1 && this is String) {
        val char = chars.single()
        return
        nativeLastIndexOf(char, startIndex)
    }
    for (index in startIndex.coerceAtMost(lastIndex) downTo 0) {
        val
        charAtIndex = get(index)
        if (chars.any { it.equals(charAtIndex, ignoreCase) })
            return index
    }
    return -1
}
private fun CharSequence.indexOf(other: CharSequence, startIndex: Int, endIndex: Int,
ignoreCase: Boolean, last: Boolean = false): Int {
    val indices = if (!last)
        startIndex.coerceAtLeast(0)..endIndex.coerceAtMost(length)
    else
        startIndex.coerceAtMost(lastIndex)
}

```

```

downTo endIndex.coerceAtLeast(0))\n    if (this is String && other is String) { // smart cast\n        for (index in
indices) {\n            if (other.regionMatches(0, this, index, other.length, ignoreCase))\n                return index\n        }\n    } else {\n        for (index in indices) {\n            if (other.regionMatchesImpl(0, this, index, other.length,
ignoreCase))\n                return index\n        }\n    }\n    return -1\n}\n\nprivate fun CharSequence.findAnyOf(strings:
Collection<String>, startIndex: Int, ignoreCase: Boolean, last: Boolean): Pair<Int, String>? {\n    if (!ignoreCase
&& strings.size == 1) {\n        val string = strings.single()\n        val index = if (!last) indexOf(string, startIndex) else
lastIndexOf(string, startIndex)\n        return if (index < 0) null else index to string\n    }\n\n    val indices = if (!last)
startIndex.coerceAtLeast(0)..length else startIndex.coerceAtMost(lastIndex) downTo 0\n\n    if (this is String) {\n        for (index in indices) {\n            val matchingString = strings.firstOrNull { it.regionMatches(0, this, index, it.length,
ignoreCase) }\n            if (matchingString != null)\n                return index to matchingString\n        }\n    } else {\n        for (index in indices) {\n            val matchingString = strings.firstOrNull { it.regionMatchesImpl(0, this, index,
it.length, ignoreCase) }\n            if (matchingString != null)\n                return index to matchingString\n        }\n    }\n\n    return null\n}\n\n/**\n * Finds the first occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the first occurrence of matched string from [strings] and the string matched\n * or `null` if none of [strings] are found.\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int = 0,
ignoreCase: Boolean = false): Pair<Int, String>? =\n    findAnyOf(strings, startIndex, ignoreCase, last =
false)\n\n/**\n * Finds the last occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the last occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found.\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the end toward the beginning of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun CharSequence.findLastAnyOf(strings: Collection<String>, startIndex: Int =
lastIndex, ignoreCase: Boolean = false): Pair<Int, String>? =\n    findAnyOf(strings, startIndex, ignoreCase, last =
true)\n\n/**\n * Finds the index of the first occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the first occurrence of matched string from [strings] or -1 if none of [strings] are found.\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun
CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Int =\n    findAnyOf(strings, startIndex, ignoreCase, last = false)?.first ?: -1\n\n/**\n * Finds the index of the last occurrence
of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally
ignoring the case.\n * @param startIndex The index of character to start searching at. The search proceeds
backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching
a string. By default `false`.\n * @return An index of the last occurrence of matched string from [strings] or -1 if
none of [strings] are found.\n * To avoid ambiguous results when strings in [strings] have characters in common,
this method proceeds from\n * the end toward the beginning of this string, and finds at each position the first
element in [strings]\n * that matches this string at that position.\n */\npublic fun
CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean =
false): Int =\n    findAnyOf(strings, startIndex, ignoreCase, last = true)?.first ?: -1\n\n// indexOf\n\n/**\n * Returns
the index within this string of the first occurrence of the specified character, starting from the specified
[startIndex].\n * @param ignoreCase `true` to ignore character case when matching a character. By default

```

```

`false`.n * @return An index of the first occurrence of [char] or -1 if none is found.n */npublic fun
CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase: Boolean = false): Int {n    return if (ignoreCase
|| this !is String)n        indexOfAny(charArrayOf(char), startIndex, ignoreCase)n    else\n        nativeIndexOf(char,
startIndex)n}\n/n/**n * Returns the index within this char sequence of the first occurrence of the specified
[string],n * starting from the specified [startIndex].n */n * @param ignoreCase `true` to ignore character case when
matching a string. By default `false`.n * @return An index of the first occurrence of [string] or -1 if none is
found.n * @sample samples.text.Strings.indexOf.n */npublic fun CharSequence.indexOf(string: String, startIndex:
Int = 0, ignoreCase: Boolean = false): Int {n    return if (ignoreCase || this !is String)n        indexOf(string,
startIndex, length, ignoreCase)n    else\n        nativeIndexOf(string, startIndex)n}\n/n/**n * Returns the index
within this char sequence of the last occurrence of the specified character,n * starting from the specified
[startIndex].n */n * @param startIndex The index of character to start searching at. The search proceeds backward
toward the beginning of the string.n * @param ignoreCase `true` to ignore character case when matching a
character. By default `false`.n * @return An index of the last occurrence of [char] or -1 if none is found.n
*/npublic fun CharSequence.lastIndexOf(char: Char, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int
{n    return if (ignoreCase || this !is String)n        lastIndexOfAny(charArrayOf(char), startIndex, ignoreCase)n
    else\n        nativeLastIndexOf(char, startIndex)n}\n/n/**n * Returns the index within this char sequence of the last
occurrence of the specified [string],n * starting from the specified [startIndex].n */n * @param startIndex The
index of character to start searching at. The search proceeds backward toward the beginning of the string.n *
@param ignoreCase `true` to ignore character case when matching a string. By default `false`.n * @return An index
of the last occurrence of [string] or -1 if none is found.n */npublic fun CharSequence.lastIndexOf(string: String,
startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {n    return if (ignoreCase || this !is String)n
    indexOf(string, startIndex, 0, ignoreCase, last = true)n    else\n        nativeLastIndexOf(string,
startIndex)n}\n/n/**n * Returns `true` if this char sequence contains the specified [other] sequence of characters as
a substring.n */n * @param ignoreCase `true` to ignore character case when comparing strings. By default `false`.n
*/n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")npublic operator fun
CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =n    if (other is String)n
    indexOf(other, ignoreCase = ignoreCase) >= 0\n    else\n        indexOf(other, 0, length, ignoreCase) >=
0\n}\n/n/**n * Returns `true` if this char sequence contains the specified character [char].n */n * @param
ignoreCase `true` to ignore character case when comparing characters. By default `false`.n
*/n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")npublic operator fun CharSequence.contains(char:
Char, ignoreCase: Boolean = false): Boolean =n    indexOf(char, ignoreCase = ignoreCase) >= 0\n/n/**n * Returns
`true` if this char sequence contains at least one match of the specified regular expression [regex].n
*/n@kotlin.internal.InlineOnlynpublic inline operator fun CharSequence.contains(regex: Regex): Boolean =
regex.containsMatchIn(this)\n/n/n// rangesDelimitedBy\n/n\nprivate class DelimitedRangesSequence(\n    private
val input: CharSequence,\n    private val startIndex: Int,\n    private val limit: Int,\n    private val getNextMatch:
CharSequence.(currentIndex: Int) -> Pair<Int, Int>?) : Sequence<IntRange> {\n    override fun iterator():
Iterator<IntRange> = object : Iterator<IntRange> {\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for
continue\n        var currentStartIndex: Int = startIndex.coerceIn(0, input.length)\n        var nextSearchIndex: Int =
currentStartIndex\n        var nextItem: IntRange? = null\n        var counter: Int = 0\n        private fun calcNext() {\n
            if (nextSearchIndex < 0) {\n                nextState = 0\n                nextItem = null\n            } else {\n
                if
(limit > 0 && ++counter >= limit || nextSearchIndex > input.length) {\n                    nextItem =
currentStartIndex..input.lastIndex\n                    nextSearchIndex = -1\n                } else {\n                    val match =
input.getNextMatch(nextSearchIndex)\n                    if (match == null) {\n                        nextItem =
currentStartIndex..input.lastIndex\n                        nextSearchIndex = -1\n                    } else {\n                        val
(index, length) = match\n                            nextItem = currentStartIndex until index\n                            currentStartIndex
= index + length\n                            nextSearchIndex = currentStartIndex + if (length == 0) 1 else 0\n                        }\n
                    }\n                    nextState = 1\n                }\n            }\n            override fun next(): IntRange {\n                if (nextState ==
-1)\n                    calcNext()\n                if (nextState == 0)\n                    throw NoSuchElementException()\n                val

```



```

}\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more characters to be used as delimiters.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.\n *\n\npublic fun CharSequence.split(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): List<String> {\n    if (delimiters.size == 1) {\n        return split(delimiters[0].toString(), ignoreCase, limit)\n    }\n\n    return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }\n}\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified [delimiter].\n * This is specialized version of split which receives single non-empty delimiter and offers better performance\n *\n * @param delimiter String used as delimiter\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.\n *\n\nprivate fun CharSequence.split(delimiter: String, ignoreCase: Boolean, limit: Int): List<String> {\n    requireNonNegativeLimit(limit)\n\n    var currentOffset = 0\n    var nextIndex = indexOf(delimiter, currentOffset, ignoreCase)\n    if (nextIndex == -1 || limit == 1) {\n        return listOf(this.toString())\n    }\n\n    val isLimited = limit > 0\n    val result = ArrayList<String>(if (isLimited) limit.coerceAtMost(10) else 10)\n    do {\n        result.add(substring(currentOffset, nextIndex))\n        currentOffset = nextIndex + delimiter.length\n        // Do not search for next occurrence if we're reaching limit\n        if (isLimited && result.size == limit - 1) break\n\n        nextIndex = indexOf(delimiter, currentOffset, ignoreCase)\n    } while (nextIndex != -1)\n\n    result.add(substring(currentOffset, length))\n    return result\n}\n\n/**\n * Splits this char sequence to a list of strings around matches of the given regular expression.\n *\n * @param limit Non-negative value specifying the maximum number of substrings to return.\n * Zero by default means no limit is set.\n *\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> =\n    regex.split(this, limit)\n\n/**\n * Splits this char sequence to a sequence of strings around matches of the given regular expression.\n *\n * @param limit Non-negative value specifying the maximum number of substrings to return.\n * Zero by default means no limit is set.\n *\n * @sample samples.text.Strings.splitToSequence\n *\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.splitToSequence(regex: Regex, limit: Int = 0): Sequence<String> =\n    regex.splitToSequence(this, limit)\n\n/**\n * Splits this char sequence to a sequence of lines delimited by any of the following character sequences: CRLF, LF or CR.\n *\n * The lines returned do not include terminating line separators.\n *\n\npublic fun CharSequence.lineSequence(): Sequence<String> = splitToSequence("\\r\\n", "\\n", "\\r")\n\n/**\n * Splits this char sequence to a list of lines delimited by any of the following character sequences: CRLF, LF or CR.\n *\n * The lines returned do not include terminating line separators.\n *\n\npublic fun CharSequence.lines(): List<String> = lineSequence().toList()\n\n/**\n * Returns `true` if the contents of this char sequence are equal to the contents of the specified [other],\n * i.e. both char sequences contain the same number of the same characters in the same order.\n *\n * @sample samples.text.Strings.contentEquals\n *\n\n@SinceKotlin("1.5")\npublic expect infix fun CharSequence?.contentEquals(other: CharSequence?): Boolean\n\n/**\n * Returns `true` if the contents of this char sequence are equal to the contents of the specified [other],\n * optionally ignoring case difference.\n *\n * @param ignoreCase `true` to ignore character case when comparing contents.\n *\n * @sample samples.text.Strings.contentEquals\n *\n\n@SinceKotlin("1.5")\npublic expect fun CharSequence?.contentEquals(other: CharSequence?, ignoreCase: Boolean): Boolean\n\n\ninternal fun CharSequence?.contentEqualsIgnoreCaseImpl(other: CharSequence?): Boolean {\n    if (this is String && other is String) {\n        return this.equals(other, ignoreCase = true)\n    }\n\n    if (this === other) return true\n    if (this == null || other == null || this.length != other.length) return false\n\n    for (i in 0 until length) {\n        if (!this[i].equals(other[i], ignoreCase = true)) {\n            return false\n        }\n    }\n\n    return true\n}\n\n\ninternal fun CharSequence?.contentEqualsImpl(other: CharSequence?): Boolean {\n    if (this is String && other is String) {\n        return this == other\n    }\n\n    if (this === other) return true\n    if (this == null || other == null || this.length != other.length) return false\n\n    for (i in 0 until length) {\n        if (this[i] != other[i]) {\n            return false\n        }\n    }\n\n    return true\n}\n\n/**\n * Returns `true` if the content of this string is equal to the word `true`, `false` if it is equal to `false`,\n * and throws an exception otherwise.\n *\n * There is also a lenient version of the function

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available on nullable String, [String?.toBoolean].\n * Note that this function is case-sensitive.\n *\n * @sample
samples.text.Strings.toBooleanStrict\n *\n@SinceKotlin("1.5")\npublic fun String.toBooleanStrict(): Boolean =
when (this) {\n    "true" -> true\n    "false" -> false\n    else -> throw IllegalArgumentException("The string
doesn't represent a boolean value: $this")\n}\n\n/**\n * Returns `true` if the content of this string is equal to the
word `true`, `false` if it is equal to `false`,\n * and `null` otherwise.\n *\n * There is also a lenient version of the
function available on nullable String, [String?.toBoolean].\n * Note that this function is case-sensitive.\n *\n *
@sample samples.text.Strings.toBooleanStrictOrNull\n *\n@SinceKotlin("1.5")\npublic fun
String.toBooleanStrictOrNull(): Boolean? = when (this) {\n    "true" -> true\n    "false" -> false\n    else ->
null\n},"/>\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n//
Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport
kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic value class
UByteArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ByteArray) :
Collection<UByte> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. *\n
public constructor(size: Int) : this(ByteArray(size))\n\n    /**\n     * Returns the array element at the given [index].
This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     *\n     public
operator fun get(index: Int): UByte = storage[index].toUByte()\n\n     /**\n     * Sets the element at the given [index]
to the given [value]. This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds
of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is
unspecified.\n     *\n     public operator fun set(index: Int, value: UByte) {\n         storage[index] = value.toByte()\n
}\n\n     /** Returns the number of elements in the array. *\n     public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. *\n     public override operator fun iterator():
kotlin.collections.Iterator<UByte> = Iterator(storage)\n\n     @Suppress("DEPRECATION_ERROR")\n     private
class Iterator(private val array: ByteArray) : UByteIterator() {\n         private var index = 0\n         override fun
hasNext() = index < array.size\n         override fun nextUByte() = if (index < array.size) array[index++].toUByte()\n
else throw NoSuchElementException(index.toString())\n     }\n\n     override fun contains(element: UByte): Boolean
{\n         // TODO: Eliminate this check after KT-30016 gets fixed.\n         // Currently JS BE does not generate
special bridge method for this method.\n         @Suppress("USELESS_CAST")\n         if ((element as Any?) !is
UByte) return false\n         return storage.contains(element.toByte())\n     }\n\n     override fun containsAll(elements:
Collection<UByte>): Boolean {\n         return (elements as Collection<*>).all { it is UByte &&
storage.contains(it.toByte()) }\n     }\n\n     override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n *\n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray(size: Int, init: (Int) -> UByte): UByteArray {\n    return UByteArray(ByteArray(size) { index ->
init(index).toByte()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ubyteArrayOf(vararg elements: UByte): UByteArray = elements\n"},"/>\n * Copyright 2010-2022 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\nimport kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic
value class UIntArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: IntArray) :
Collection<UInt> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. *\n
public constructor(size: Int) : this(IntArray(size))\n\n    /**\n     * Returns the array element at the given [index].
This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     *\n     public
operator fun get(index: Int): UInt = storage[index]\n\n     /**\n     * Sets the element at the given [index] to the
given [value]. This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds
of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is
unspecified.\n     *\n     public operator fun set(index: Int, value: UInt) {\n         storage[index] = value\n
}\n\n     /** Returns the number of elements in the array. *\n     public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. *\n     public override operator fun iterator():

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operator fun get(index: Int): UInt = storage[index].toUInt()\n\n /**\n * Sets the element at the given [index] to
the given [value]. This method can be called using the index operator.\n * \n * If the [index] is out of bounds of
this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n public operator fun set(index: Int, value: UInt) {\n storage[index] = value.toInt()\n }\n\n /** Returns
the number of elements in the array. *\n public override val size: Int get() = storage.size\n\n /** Creates an
iterator over the elements of the array. *\n public override operator fun iterator(): kotlin.collections.Iterator<UInt>
= Iterator(storage)\n\n @Suppress("DEPRECATION_ERROR")\n private class Iterator(private val array:
IntArray) : UIntIterator() {\n private var index = 0\n override fun hasNext() = index < array.size\n
override fun nextUInt() = if (index < array.size) array[index++].toUInt() else throw
NoSuchElementException(index.toString())\n }\n\n override fun contains(element: UInt): Boolean {\n //
TODO: Eliminate this check after KT-30016 gets fixed.\n // Currently JS BE does not generate special bridge
method for this method.\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is UInt) return
false\n\n return storage.contains(element.toInt())\n }\n\n override fun containsAll(elements:
Collection<UInt>): Boolean {\n return (elements as Collection<*>).all { it is UInt &&
storage.contains(it.toInt()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * \n * The function [init] is called for each array element sequentially starting from the first one.\n * It
should return the value for an array element given its index.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray(size: Int, init: (Int) -> UInt): UIntArray {\n return UIntArray(IntArray(size) { index ->
init(index).toInt()
})\n}\n\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
uintArrayOf(vararg elements: UInt): UIntArray = elements\n", "*/\n * Copyright 2010-2022 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n // Auto-generated file. DO NOT EDIT!\n\n package
kotlin\n\n import kotlin.jvm.*\n\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @JvmInline\n public
value class ULongArray\n @PublishedApi\n internal constructor(@PublishedApi internal val storage: LongArray) :
Collection<ULong> {\n\n /** Creates a new array of the specified [size], with all elements initialized to zero. *\n
public constructor(size: Int) : this(LongArray(size))\n\n /**\n * Returns the array element at the given [index].
This method can be called using the index operator.\n * \n * If the [index] is out of bounds of this array, throws
an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n public
operator fun get(index: Int): ULong = storage[index].toULong()\n\n /**\n * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n * \n * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is
unspecified.\n * \n public operator fun set(index: Int, value: ULong) {\n storage[index] = value.toLong()\n
}\n\n /** Returns the number of elements in the array. *\n public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. *\n public override operator fun iterator():
kotlin.collections.Iterator<ULong> = Iterator(storage)\n\n @Suppress("DEPRECATION_ERROR")\n private
class Iterator(private val array: LongArray) : ULongIterator() {\n private var index = 0\n override fun
hasNext() = index < array.size\n override fun nextULong() = if (index < array.size) array[index++].toULong()
else throw NoSuchElementException(index.toString())\n }\n\n override fun contains(element: ULong): Boolean
{\n // TODO: Eliminate this check after KT-30016 gets fixed.\n // Currently JS BE does not generate
special bridge method for this method.\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is
ULong) return false\n\n return storage.contains(element.toLong())\n }\n\n override fun
containsAll(elements: Collection<ULong>): Boolean {\n return (elements as Collection<*>).all { it is ULong
&& storage.contains(it.toLong()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n *
Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]
function.\n * \n * The function [init] is called for each array element sequentially starting from the first one.\n * It

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should return the value for an array element given its index.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray(size: Int, init: (Int) -> ULong): ULongArray {\n    return ULongArray(LongArray(size) { index ->  
        init(index).toLong()  
    })\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ulongArrayOf(vararg elements: ULong): ULongArray = elements\n"/*\n * Copyright 2010-2022 JetBrains s.r.o.  
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license  
that can be found in the license/LICENSE.txt file.\n */\n\npackage  
kotlin\n\nimport kotlin.jvm.*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@JvmInline\npublic  
value class UShortArray\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ShortArray) :  
Collection<UShort> {\n    /** Creates a new array of the specified [size], with all elements initialized to zero. *\n    public constructor(size: Int) : this(ShortArray(size))\n    /**\n    * Returns the array element at the given [index].  
This method can be called using the index operator.\n    *\n    * If the [index] is out of bounds of this array, throws  
an [IndexOutOfBoundsException] except in Kotlin/JS\n    * where the behavior is unspecified.\n    *\n    public  
operator fun get(index: Int): UShort = storage[index].toUShort()\n    /**\n    * Sets the element at the given  
[index] to the given [value]. This method can be called using the index operator.\n    *\n    * If the [index] is out of  
bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n    * where the behavior is  
unspecified.\n    *\n    public operator fun set(index: Int, value: UShort) {\n        storage[index] = value.toShort()\n    }\n    /** Returns the number of elements in the array. *\n    public override val size: Int get() = storage.size\n    /** Creates an iterator over the elements of the array. *\n    public override operator fun iterator():  
kotlin.collections.Iterator<UShort> = Iterator(storage)\n    @Suppress("DEPRECATION_ERROR")\n    private  
class Iterator(private val array: ShortArray) : UShortIterator() {\n        private var index = 0\n        override fun  
hasNext() = index < array.size\n        override fun nextUShort() = if (index < array.size) array[index++].toUShort()  
else throw NoSuchElementException(index.toString())\n    }\n    override fun contains(element: UShort): Boolean  
{\n        // TODO: Eliminate this check after KT-30016 gets fixed.\n        // Currently JS BE does not generate  
special bridge method for this method.\n        @Suppress("USELESS_CAST")\n        if ((element as Any?) !is  
UShort) return false\n        return storage.contains(element.toShort())\n    }\n    override fun  
containsAll(elements: Collection<UShort>): Boolean {\n        return (elements as Collection<*>).all { it is UShort  
&& storage.contains(it.toShort()) }\n    }\n    override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init]  
function.\n * *\n * The function [init] is called for each array element sequentially starting from the first one.\n * *\n * It  
should return the value for an array element given its index.\n */\n
```

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray(size: Int, init: (Int) -> UShort): UShortArray {\n    return UShortArray(ShortArray(size) { index ->  
        init(index).toShort()\n    })\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ushortArrayOf(vararg elements: UShort): UShortArray = elements\n"/*\n * Copyright 2010-2021 JetBrains s.r.o.  
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license  
that can be found in the license/LICENSE.txt file.\n */\n
```

```
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UArraysKt")\n@file:kotlin.jvm.JvmPacka  
geName("kotlin.collections.unsigned")\n\npackage kotlin.collections\n\n// NOTE: THIS FILE IS AUTO-  
GENERATED by the GenerateStandardLib.kt\n// See:
```

```
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\nimport  
kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * *\n * If the  
size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior  
is unspecified.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic  
inline operator fun UIntArray.component1(): UInt {\n    return get(0)\n}\n\n/**\n * Returns 1st *element* from the  
array.\n * *\n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n */\n
```

\* where the behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 ULongArray.component1(): ULong {\n return get(0)\n}\n\n/\*\*\n \* Returns 1st \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UByteArray.component1(): UByte {\n return get(0)\n}\n\n/\*\*\n \* Returns 1st \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UShortArray.component1(): UShort {\n return get(0)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UIntArray.component2(): UInt {\n return get(1)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 ULongArray.component2(): ULong {\n return get(1)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UByteArray.component2(): UByte {\n return get(1)\n}\n\n/\*\*\n \* Returns 2nd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UShortArray.component2(): UShort {\n return get(1)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UIntArray.component3(): UInt {\n return get(2)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 ULongArray.component3(): ULong {\n return get(2)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UByteArray.component3(): UByte {\n return get(2)\n}\n\n/\*\*\n \* Returns 3rd \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UShortArray.component3(): UShort {\n return get(2)\n}\n\n/\*\*\n \* Returns 4th \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the  
 behavior is unspecified.\n

\*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
 UIntArray.component4(): UInt {\n return get(3)\n}\n\n/\*\*\n \* Returns 4th \*element\* from the array.\n \* \n \*  
 If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n \* where the behavior

is unspecified.

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun ULongArray.component4(): ULong {\n    return get(3)\n}\n\n/**\n * Returns 4th *element* from
the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component4(): UByte {\n    return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n *
If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component4(): UShort {\n    return get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component5(): UInt {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If
the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline operator fun ULongArray.component5(): ULong {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from
the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in
Kotlin/JS\n * where the behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component5(): UByte {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n *
If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the
behavior is unspecified.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component5(): UShort {\n    return get(4)\n}\n\n/**\n * Returns an element at the given [index] or
throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int):
UInt\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int):
ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int):
UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int):
UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the
[index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n    return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the

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result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n \* \n \* @sample  
samples.collections.Collections.Elements.elementAtOrElse\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n    return if (index >= 0 && index  

<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result  

of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrElse\n
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```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n    return if (index >= 0 &&  

index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or  

`null` if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UIntArray.elementAtOrNull(index: Int): UInt? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element  

at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

ULongArray.elementAtOrNull(index: Int): ULong? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an  

element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UByteArray.elementAtOrNull(index: Int): UByte? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an  

element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample  

samples.collections.Collections.Elements.elementAtOrNull\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UShortArray.elementAtOrNull(index: Int): UShort? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns the  

first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the  

first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n    return firstOrNull(predicate)\n}\n\n/**\n *  

Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
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```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns  

the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n    return firstOrNull(predicate)\n}\n\n/**\n *  

Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  

UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the  

last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample  

samples.collections.Collections.Elements.find\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.findLast(predicate: (ULong) -> Boolean): ULong? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.find\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(): UInt {\n    return storage.first().toUInt()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(): ULong {\n    return storage.first().toULong()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(): UByte {\n    return storage.first().toUByte()\n}\n\n/**\n * Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(): UShort {\n    return storage.first().toUShort()\n}\n\n/**\n * Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(predicate: (UInt) -> Boolean): UInt {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(predicate: (ULong) -> Boolean): ULong {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(predicate: (UByte) -> Boolean): UByte {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(predicate: (UShort) -> Boolean): UShort {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.firstOrNull(): UInt? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.firstOrNull(): ULong? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.firstOrNull(): UByte? {\n    return
if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.firstOrNull(): UShort? {\n
return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if
element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.firstOrNull(predicate: (UInt) -> Boolean): UInt? {\n  for (element in this) if (predicate(element)) return
element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element
was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.firstOrNull(predicate: (ULong) -> Boolean): ULong? {\n  for (element in this) if
(predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.firstOrNull(predicate: (UByte) -> Boolean): UByte? {\n  for (element in this) if (predicate(element))
return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if
element was not found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.firstOrNull(predicate: (UShort) -> Boolean): UShort? {\n  for (element in this) if (predicate(element))
return element\n  return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.getOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.getOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.getOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.getOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this array.\n
*\n * @sample samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.getOrNull(index: Int): UInt? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n
*\n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.getOrNull(index: Int):
ULong? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at
the given [index] or `null` if the [index] is out of bounds of this array.\n
*\n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.getOrNull(index: Int): UByte?
{\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the
given [index] or `null` if the [index] is out of bounds of this array.\n
*\n * @sample
samples.collections.Collections.Elements.getOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.getOrNull(index: Int):
UShort? {\n  return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of

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[element], or -1 if the array does not contain element.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOf(element: UInt): Int {\n    return storage.indexOf(element.toInt())\n}\n\n/**\n * Returns first
index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.indexOf(element: ULong): Int {\n    return storage.indexOf(element.toLong())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOf(element: UByte): Int {\n    return storage.indexOf(element.toByte())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOf(element: UShort): Int {\n    return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns
index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n    return storage.indexOfFirst { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n    return storage.indexOfLast { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n * \n * @throws NoSuchElementException if the
array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(): UInt {\n    return storage.last().toUInt()\n}\n\n/**\n * Returns the last element.\n * \n * @throws
NoSuchElementException if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(): ULong {\n    return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n * \n *

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@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(): UByte {\n    return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n * \n *
@throws NoSuchElementException if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(): UShort {\n    return storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching
the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(predicate: (UInt) -> Boolean): UInt {\n    for (index in this.indices.reversed()) {\n        val element =
this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains
no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * \n *
@throws NoSuchElementException if no such element is found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(predicate: (ULong) -> Boolean): ULong {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n
* \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(predicate: (UByte) -> Boolean): UByte {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * \n * @throws NoSuchElementException if no such element is found.\n
* \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(predicate: (UShort) -> Boolean): UShort {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns last index
of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastIndexOf(element: UInt): Int {\n    return storage.lastIndexOf(element.toInt())\n}\n\n/**\n * Returns
last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastIndexOf(element: ULong): Int {\n    return storage.lastIndexOf(element.toLong())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastIndexOf(element: UByte): Int {\n    return storage.lastIndexOf(element.toByte())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastIndexOf(element: UShort): Int {\n    return storage.lastIndexOf(element.toShort())\n}\n\n/**\n *
Returns the last element, or `null` if the array is empty.\n * \n * @sample
samples.collections.Collections.Elements.last\n*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UIntArray.lastOrNull(): UInt? {\n    return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last
element, or `null` if the array is empty.\n * \n * @sample samples.collections.Collections.Elements.last\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.lastOrNull(): ULong? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n *
\n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.lastOrNull(): UByte? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n *
\n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.lastOrNull(): UShort? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given [predicate], or
`null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastOrNull(predicate: (UInt) -> Boolean): UInt? {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastOrNull(predicate: (ULong) -> Boolean): ULong? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastOrNull(predicate: (UByte) -> Boolean): UByte? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample
samples.collections.Collections.Elements.last\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n    for (index in this.indices.reversed()) {\n
val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns a
random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.random(): UInt {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n
*\n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.random(): ULong {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.random(): UByte {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.random(): UShort {\n    return random(Random)\n}\n\n/**\n * Returns a random element from this
array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.random(random: Random): UInt
{\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random):
ULong {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random):
UByte {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.random(random: Random):
UShort {\n if (isEmpty())\n throw NoSuchElementException("Array is empty.")\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.randomOrNull(): UInt? {\n return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.randomOrNull(): ULong? {\n return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.randomOrNull(): UByte? {\n return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.randomOrNull(): UShort? {\n return
randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun UIntArray.randomOrNull(random: Random): UInt? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun ULongArray.randomOrNull(random: Random): ULong? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun UByteArray.randomOrNull(random: Random): UByte? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\np
ublic fun UShortArray.randomOrNull(random: Random): UShort? {\n if (isEmpty())\n return null\n return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(): UInt {\n return storage.single().toInt()\n}\n\n/**\n * Returns the single element, or throws an
exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(): ULong {\n return storage.single().toULong()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(): UByte {\n return storage.single().toUByte()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(): UShort {\n return storage.single().toUShort()\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n  var single: UInt? = null\n  var found = false\n  for
(element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as UInt\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(predicate: (ULong) -> Boolean): ULong {\n  var single: ULong? = null\n  var found = false\n
for (element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as ULong\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(predicate: (UByte) -> Boolean): UByte {\n  var single: UByte? = null\n  var found = false\n
for (element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as UByte\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(predicate: (UShort) -> Boolean): UShort {\n  var single: UShort? = null\n  var found = false\n
for (element in this) {\n    if (predicate(element)) {\n      if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n      single = element\n      found = true\n    }\n  }\n  if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n  @Suppress("UNCHECKED_CAST")\n  return single as UShort\n}\n\n/**\n * Returns single element, or `null` if
the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.singleOrNull(): UInt? {\n  return
if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.singleOrNull(): ULong? {\n  return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.singleOrNull(): UByte? {\n  return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.singleOrNull(): UShort? {\n  return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.singleOrNull(predicate: (UInt) -> Boolean): UInt? {\n  var single: UInt? = null\n  var found = false\n
for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single = element\n
      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.singleOrNull(predicate: (ULong) -> Boolean): ULong? {\n  var single: ULong? = null\n  var found
= false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single =
element\n      found = true\n    }\n  }\n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was

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found.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UByteArray.singleOrNull(predicate: (UByte) -> Boolean): UByte? {\n  var single: UByte? = null\n  var found
= false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single =
element\n      found = true\n    } \n  } \n  if (!found) return null\n  return single\n}\n\n/**\n * Returns the
single element matching the given [predicate], or `null` if element was not found or more than one element was
found.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun UShortArray.singleOrNull(predicate: (UShort) -> Boolean): UShort? {\n  var single: UShort? = null\n  var
found = false\n  for (element in this) {\n    if (predicate(element)) {\n      if (found) return null\n      single
= element\n      found = true\n    } \n  } \n  if (!found) return null\n  return single\n}\n\n/**\n * Returns a list
containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n *
\n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.drop(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.drop(n: Int): List<ULong> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.drop(n: Int): List<UByte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.drop(n: Int): List<UShort> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return takeLast((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.dropLast(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.dropLast(n: Int):
List<ULong> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.dropLast(n: Int): List<UByte>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int):
List<UShort> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  return take((size -

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n).coerceAtLeast(0))\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  for (index in lastIndex downTo 0)
{\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  for (index in lastIndex downTo 0)
{\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  for (index in lastIndex downTo
0) {\n    if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  var yielding = false\n  val list =
ArrayList<UInt>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n
      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  var yielding = false\n  val list =
ArrayList<ULong>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  var yielding = false\n  val list =
ArrayList<UByte>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  var yielding = false\n  val list =
ArrayList<UShort>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing only
elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filter(predicate: (UInt) -> Boolean): List<UInt> {\n  return filterTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample

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samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n  return filterTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n  return filterTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n  return filterTo(ArrayList<UShort>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterIndexed(predicate: (index: Int, UInt) -> Boolean): List<UInt> {\n  return
filterIndexedTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterIndexed(predicate: (index: Int, ULong) -> Boolean): List<ULong> {\n  return
filterIndexedTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterIndexed(predicate: (index: Int, UByte) -> Boolean): List<UByte> {\n  return
filterIndexedTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexed\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterIndexed(predicate: (index: Int, UShort) -> Boolean): List<UShort> {\n  return
filterIndexedTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n * @param [predicate] function that takes the index of an element and the element
itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterIndexedTo(destination: C, predicate: (index: Int, UInt) -> Boolean): C {\n
forEachIndexed { index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterIndexedTo(destination: C, predicate: (index: Int, ULong) ->
Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))
destination.add(element)\n  }\n  return destination\n}\n\n/**\n * Appends all elements matching the given

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[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterIndexedTo(destination: C, predicate: (index: Int, UByte) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample
samples.collections.Collections.Filtering.filterIndexedTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    }\n    return destination\n}\n\n/**\n * Returns a list containing all elements not
matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {\n    return filterNotTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {\n    return filterNotTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {\n    return filterNotTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {\n    return
filterNotTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements not matching the given [predicate]
to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination: C, predicate: (ULong) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean): C {\n

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for (element in this) if (!predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterTo(destination: C, predicate: (UInt) -> Boolean): C {\n  for (element
in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {\n  for
(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n  for
(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n  for
(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange):
List<UInt> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: IntRange):
List<ULong> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: IntRange):
List<UByte> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: IntRange):
List<UShort> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: Iterable<Int>):
List<UInt> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =
ArrayList<UInt>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: Iterable<Int>):
List<ULong> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =
ArrayList<ULong>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: Iterable<Int>):
List<UByte> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =
ArrayList<UByte>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: Iterable<Int>):
List<UShort> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list =

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ArrayList<UShort>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices: Collection<Int>): UIntArray {\n  return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices: Collection<Int>): ULongArray {\n  return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices: Collection<Int>): UByteArray {\n  return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices: Collection<Int>): UShortArray {\n  return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices: IntRange): UIntArray {\n  return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices: IntRange): ULongArray {\n  return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices: IntRange): UByteArray {\n  return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices: IntRange): UShortArray {\n  return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.take(n: Int): List<UInt> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<UInt>(n)\n  for (item in this) {\n    list.add(item)\n    if (++count == n)\n      break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.take(n: Int): List<ULong> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<ULong>(n)\n  for (item in this) {\n    list.add(item)\n    if (++count == n)\n      break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.take(n: Int): List<UByte> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<UByte>(n)\n  for (item in this) {\n    list.add(item)\n    if (++count == n)\n      break\n  }\n  return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.take(n: Int): List<UShort> {\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[0])\n  var count = 0\n  val list = ArrayList<UShort>(n)\n  for

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(item in this) {\n    list.add(item)\n    if (++count == n)\n        break\n    }\n    return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.takeLast(n: Int): List<UInt> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<UInt>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.takeLast(n: Int): List<ULong>\n{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<ULong>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.takeLast(n: Int): List<UByte>\n{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<UByte>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.takeLast(n: Int): List<UShort>\n{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val size = size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<UShort>(n)\n    for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    for (index in lastIndex downTo 0) {\n        if (!predicate(this[index]))\n            return drop(index + 1)\n    }\n    return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

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UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  val list = ArrayList<UInt>()\n  for (item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n *\n * @sample\n samples.collections.Collections.Transformations.take\n\n*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  val list = ArrayList<ULong>()\n  for (item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n *\n * @sample\n samples.collections.Collections.Transformations.take\n\n*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  val list = ArrayList<UByte>()\n  for (item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n *\n * @sample\n samples.collections.Collections.Transformations.take\n\n*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  val list = ArrayList<UShort>()\n  for (item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n * Reverses elements in the array in-place.\n\n*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.reverse(): Unit {\n  storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n\n*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.reverse(): Unit {\n  storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n\n*/\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.reverse(): Unit {\n  storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n *\n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n *\n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n *\n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n  storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n *\n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n\n*/\n\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

UShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {
    storage.reverse(fromIndex, toIndex)
}

Returns a list with elements in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UIntArray.reversed(): List<UInt> {
    if (isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}

Returns a list with elements in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun ULongArray.reversed(): List<ULong> {
    if (isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}

Returns a list with elements in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UByteArray.reversed(): List<UByte> {
    if (isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}

Returns a list with elements in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UShortArray.reversed(): List<UShort> {
    if (isEmpty()) return emptyList()
    val list = toMutableList()
    list.reverse()
    return list
}

Returns an array with elements of this array in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.reversedArray(): UIntArray {
    return UIntArray(storage.reversedArray())
}

Returns an array with elements of this array in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.reversedArray(): ULongArray {
    return ULongArray(storage.reversedArray())
}

Returns an array with elements of this array in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.reversedArray(): UByteArray {
    return UByteArray(storage.reversedArray())
}

Returns an array with elements of this array in reversed order.

@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.reversedArray(): UShortArray {
    return UShortArray(storage.reversedArray())
}

Randomly shuffles elements in this array in-place.

@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public fun UIntArray.shuffle(): Unit {
    shuffle(Random)
}

Randomly shuffles elements in this array in-place.

@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public fun ULongArray.shuffle(): Unit {
    shuffle(Random)
}

Randomly shuffles elements in this array in-place.

@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public fun UByteArray.shuffle(): Unit {
    shuffle(Random)
}

Randomly shuffles elements in this array in-place.

@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public fun UShortArray.shuffle(): Unit {
    shuffle(Random)
}

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

* See:
https://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm

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

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

* See:
https://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm

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

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

* See:
https://en.wikipedia.org/wiki/Fisher%20%93Yates\_shuffle#The\_modern\_algorithm

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

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

* See:

```

[https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates\\_shuffle#The\\_modern\\_algorithm](https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm)

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(random: Random):  
Unit {\n    for (i in lastIndex downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] =  
this[j]\n        this[j] = copy\n    }\n}\n/**\n * Sorts elements in the array in-place descending according to their  
natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun  
UIntArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n/**\n * Sorts elements  
in the array in-place descending according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(): Unit {\n    if  
(size > 1) {\n        sort()\n        reverse()\n    }\n}\n/**\n * Sorts elements in the array in-place descending  
according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun  
UByteArray.sortDescending(): Unit {\n    if (size > 1) {\n        sort()\n        reverse()\n    }\n}\n/**\n * Sorts  
elements in the array in-place descending according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(): Unit {\n    if  
(size > 1) {\n        sort()\n        reverse()\n    }\n}\n/**\n * Returns a list of all elements sorted according to their  
natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sorted():  
List<UInt> {\n    return copyOf().apply { sort() }.asList()\n}\n/**\n * Returns a list of all elements sorted  
according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun  
ULongArray.sorted(): List<ULong> {\n    return copyOf().apply { sort() }.asList()\n}\n/**\n * Returns a list of all  
elements sorted according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sorted(): List<UByte> {\n    return  
copyOf().apply { sort() }.asList()\n}\n/**\n * Returns a list of all elements sorted according to their natural  
sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sorted():  
List<UShort> {\n    return copyOf().apply { sort() }.asList()\n}\n/**\n * Returns an array with all elements of this  
array sorted according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArray(): UIntArray {\n    if  
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n/**\n * Returns an array with all elements of  
this array sorted according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArray(): ULongArray  
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n/**\n * Returns an array with all  
elements of this array sorted according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArray(): UByteArray {\n    if  
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n/**\n * Returns an array with all elements  
of this array sorted according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArray(): UShortArray  
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n/**\n * Returns an array with all  
elements of this array sorted descending according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArrayDescending():  
UIntArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n/**\n * Returns  
an array with all elements of this array sorted descending according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArrayDescending():  
ULongArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArrayDescending():  
UByteArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArrayDescending():  
UShortArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n*/\n * \n * The sort is _stable_. It
```

means that equal elements preserve their order relative to each other after sorting.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedDescending(): List<UInt>\n {\n  return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending\n according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order\n relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun\n ULongArray.sortedDescending(): List<ULong> {\n  return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It\n means that equal elements preserve their order relative to each other after sorting.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedDescending():\n List<UByte> {\n  return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted\n descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve\n their order relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic\n fun UShortArray.sortedDescending(): List<UShort> {\n  return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns an array of type [ByteArray], which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n UByteArray.asByteArray(): ByteArray {\n  return storage\n}\n\n/**\n * Returns an array of type [IntArray], which\n is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this\n array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n UIntArray.asIntArray(): IntArray {\n  return storage\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.asList():\n List<UInt>\n\n/**\n * Returns a [List] that wraps the original array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.asList():\n List<ULong>\n\n/**\n * Returns a [List] that wraps the original array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.asList():\n List<UByte>\n\n/**\n * Returns a [List] that wraps the original array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.asList():\n List<UShort>\n\n/**\n * Returns an array of type [LongArray], which is a view of this array where each element is\n a signed reinterpretation\n * of the corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n ULongArray.asLongArray(): LongArray {\n  return storage\n}\n\n/**\n * Returns an array of type [ShortArray],\n which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this\n array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n UShortArray.asShortArray(): ShortArray {\n  return storage\n}\n\n/**\n * Returns an array of type [UByteArray],\n which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of\n this array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline\n fun ByteArray.asUByteArray(): UByteArray {\n  return UByteArray(this)\n}\n\n/**\n * Returns an array of type\n [UIntArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the\n corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n IntArray.asUIntArray(): UIntArray {\n  return UIntArray(this)\n}\n\n/**\n * Returns an array of type\n [ULongArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the\n corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n LongArray.asULongArray(): ULongArray {\n  return ULongArray(this)\n}\n\n/**\n * Returns an array of type\n [UShortArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the\n corresponding element of this array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```

ShortArray.asUShortArray(): UShortArray {
    return UShortArray(this)
}

/**
 * Returns `true` if the two
 specified arrays are *structurally* equal to one another,
 i.e. contain the same number of the same elements in the
 same order.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public infix fun UIntArray.contentEquals(other: UIntArray): Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal to
 one another,
 i.e. contain the same number of the same elements in the same order.
 */
@Deprecated("Use
 Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public infix fun ULongArray.contentEquals(other: ULongArray):
 Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are
 *structurally* equal to one another,
 i.e. contain the same number of the same elements in the same order.
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public infix fun UByteArray.contentEquals(other: UByteArray): Boolean
 {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are *structurally* equal
 to one another,
 i.e. contain the same number of the same elements in the same order.
 */
@Deprecated("Use
 Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public infix fun UShortArray.contentEquals(other: UShortArray):
 Boolean {
    return this.contentEquals(other)
}

/**
 * Returns `true` if the two specified arrays are
 *structurally* equal to one another,
 i.e. contain the same number of the same elements in the same order.
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public infix fun UIntArray?.contentEquals(other:
 UIntArray?): Boolean {
    return this?.storage?.contentEquals(other?.storage)
}

/**
 * Returns `true` if the two
 specified arrays are *structurally* equal to one another,
 i.e. contain the same number of the same elements in the
 same order.
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public infix fun
 ULongArray?.contentEquals(other: ULongArray?): Boolean {
    return
 this?.storage?.contentEquals(other?.storage)
}

/**
 * Returns `true` if the two specified arrays are *structurally*
 equal to one another,
 i.e. contain the same number of the same elements in the same order.
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public infix fun UByteArray?.contentEquals(other:
 UByteArray?): Boolean {
    return this?.storage?.contentEquals(other?.storage)
}

/**
 * Returns `true` if the
 two specified arrays are *structurally* equal to one another,
 i.e. contain the same number of the same elements
 in the same order.
 */
@SinceKotlin("1.4")
@ExperimentalUnsignedTypes
public infix fun
 UShortArray?.contentEquals(other: UShortArray?): Boolean {
    return
 this?.storage?.contentEquals(other?.storage)
}

/**
 * Returns a hash code based on the contents of this array as
 if it is [List].
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public fun UIntArray.contentHashCode(): Int {
    return
 this.contentHashCode()
}

/**
 * Returns a hash code based on the contents of this array as if it is [List].
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public fun ULongArray.contentHashCode(): Int {
    return
 this.contentHashCode()
}

/**
 * Returns a hash code based on the contents of this array as if it is [List].
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public fun UByteArray.contentHashCode(): Int {
    return
 this.contentHashCode()
}

/**
 * Returns a hash code based on the contents of this array as if it is [List].
 */
@Deprecated("Use Kotlin compiler 1.4 to avoid deprecation
 warning.")
@SinceKotlin("1.3")
@DeprecatedSinceKotlin(hiddenSince =
 "1.4")
@ExperimentalUnsignedTypes
public fun UShortArray.contentHashCode(): Int {
    return
 this.contentHashCode()
}

```





specify the subrange so that it overlaps with the destination range.\n \* \n \* @param destination the array to copy to.\n \* @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n \* \n \* @return the [destination] array.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):  
UIntArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return  
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the  
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the  
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,  
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of  
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the  
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is  
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):  
ULongArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return  
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the  
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the  
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,  
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of  
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the  
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is  
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):  
UByteArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return  
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the  
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the  
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,  
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of  
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the  
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is  
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyInto(destination: UShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =  
size): UShortArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return  
destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
```

```

samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfOf(): UIntArray {\n    return UIntArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array which is
a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOfOf(): ULongArray {\n    return ULongArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfOf(): UByteArray {\n    return UByteArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOfOf(): UShortArray {\n    return UShortArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at
the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array
is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
copy array are filled with zero values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfOf(newSize: Int): UIntArray {\n    return UIntArray(storage.copyOfOf(newSize))\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyOfOf(newSize: Int): ULongArray {\n    return ULongArray(storage.copyOfOf(newSize))\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfOf(newSize: Int): UByteArray {\n    return UByteArray(storage.copyOfOf(newSize))\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOfOf(newSize: Int): UShortArray {\n    return UShortArray(storage.copyOfOf(newSize))\n}\n\n/**\n *
Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start
of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfOfRange(fromIndex: Int, toIndex: Int): UIntArray {\n    return
UIntArray(storage.copyOfOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n *
@param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

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ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {\n  return
ULongArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n *
@param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {\n  return
UByteArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the
specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n *
@param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if
[fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n  return
UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the
specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n *
@param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *
@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.fill(element: UInt, fromIndex:
Int = 0, toIndex: Int = size): Unit {\n  storage.fill(element.toInt(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array
or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to
fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n *
@throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this
array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.fill(element: ULong,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n  storage.fill(element.toLong(), fromIndex, toIndex)\n}\n\n/**\n *
Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.fill(element: UByte,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n  storage.fill(element.toByte(), fromIndex, toIndex)\n}\n\n/**\n *
Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range
(inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.fill(element: UShort,
fromIndex: Int = 0, toIndex: Int = size): Unit {\n  storage.fill(element.toShort(), fromIndex, toIndex)\n}\n\n/**\n *
Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.indices: IntRange\n  get()
= storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices: IntRange\n
get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n
get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n

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```

get() = storage.indices\n\n**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n get() =
storage.lastIndex\n\n**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.lastIndex: Int\n get() =
storage.lastIndex\n\n**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.lastIndex: Int\n get() =
storage.lastIndex\n\n**\n * Returns the last valid index for the array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.lastIndex: Int\n get() =
storage.lastIndex\n\n**\n * Returns an array containing all elements of the original array and then the given
[element].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UIntArray.plus(element: UInt): UIntArray {\n return UIntArray(storage +
element.toInt())\n}\n\n**\n * Returns an array containing all elements of the original array and then the given
[element].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun ULongArray.plus(element: ULong): ULongArray {\n return ULongArray(storage +
element.toLong())\n}\n\n**\n * Returns an array containing all elements of the original array and then the given
[element].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UByteArray.plus(element: UByte): UByteArray {\n return UByteArray(storage +
element.toByte())\n}\n\n**\n * Returns an array containing all elements of the original array and then the given
[element].\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UShortArray.plus(element: UShort): UShortArray {\n return UShortArray(storage +
element.toShort())\n}\n\n**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UIntArray.plus(elements: Collection<UInt>): UIntArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toInt()\n return
UIntArray(result)\n}\n\n**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun ULongArray.plus(elements: Collection<ULong>): ULongArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toLong()\n return
ULongArray(result)\n}\n\n**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
operator fun UByteArray.plus(elements: Collection<UByte>): UByteArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toByte()\n return
UByteArray(result)\n}\n\n**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UShortArray.plus(elements: Collection<UShort>): UShortArray {\n var index = size\n val result =
storage.copyOf(size + elements.size)\n for (element in elements) result[index++] = element.toShort()\n return
UShortArray(result)\n}\n\n**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.plus(elements: UIntArray): UIntArray {\n return UIntArray(storage + elements.storage)\n}\n\n**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.plus(elements: ULongArray): ULongArray {\n return ULongArray(storage +
elements.storage)\n}\n\n**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.plus(elements: UByteArray): UByteArray {\n return UByteArray(storage +
elements.storage)\n}\n\n**\n * Returns an array containing all elements of the original array and then all elements

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of the given [elements] array.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun  
UShortArray.plus(elements: UShortArray): UShortArray {\n    return UShortArray(storage +  
elements.storage)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
```

```
samples.collections.Arrays.Sorting.sortArray\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic  
fun UIntArray.sort(): Unit {\n    if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *  
@sample samples.collections.Arrays.Sorting.sortArray\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(): Unit {\n    if (size > 1)  
sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample
```

```
samples.collections.Arrays.Sorting.sortArray\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic  
fun UByteArray.sort(): Unit {\n    if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n *  
@sample samples.collections.Arrays.Sorting.sortArray\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(): Unit {\n    if (size > 1)  
sortArray(this, 0, size)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the  
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array  
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater  
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *  
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(fromIndex: Int = 0, toIndex:  
Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this, fromIndex,  
toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range  
(inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by  
default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than  
the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *  
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(fromIndex: Int = 0,  
toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,  
fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the  
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array  
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater  
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *  
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(fromIndex: Int = 0,  
toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,  
fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the  
range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array  
by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater  
than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n *  
@sample samples.collections.Arrays.Sorting.sortRangeOfArray\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(fromIndex: Int = 0,  
toIndex: Int = size): Unit {\n    AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n    sortArray(this,  
fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * \n * The elements are  
sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive)  
to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException  
if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws  
IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(fromIndex: Int,  
toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of
```

the array in the specified range in-place. \n \* The elements are sorted descending according to their natural sort order. \n \* \n \* @param fromIndex the start of the range (inclusive) to sort. \n \* @param toIndex the end of the range (exclusive) to sort. \n \* \n \* @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. \n \* @throws IllegalArgumentException if [fromIndex] is greater than [toIndex]. \n

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place. \n * The elements are sorted descending according to their natural sort order. \n * \n * @param fromIndex the start of the range (inclusive) to sort. \n * @param toIndex the end of the range (exclusive) to sort. \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex]. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place. \n * The elements are sorted descending according to their natural sort order. \n * \n * @param fromIndex the start of the range (inclusive) to sort. \n * @param toIndex the end of the range (exclusive) to sort. \n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array. \n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex]. \n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n    sort(fromIndex, toIndex)\n    reverse(fromIndex, toIndex)\n}\n\n/**\n * Returns an array of type [ByteArray], which is a copy of this array where each element is a signed reinterpretation \n * of the corresponding element of this array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.toByteArray(): ByteArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns an array of type [IntArray], which is a copy of this array where each element is a signed reinterpretation \n * of the corresponding element of this array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.toIntArray(): IntArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns an array of type [LongArray], which is a copy of this array where each element is a signed reinterpretation \n * of the corresponding element of this array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.toLongArray(): LongArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns an array of type [ShortArray], which is a copy of this array where each element is a signed reinterpretation \n * of the corresponding element of this array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.toShortArray(): ShortArray {\n    return storage.copyOf()\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.toTypedArray(): Array<UInt> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.toTypedArray(): Array<ULong> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.toTypedArray(): Array<UByte> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.toTypedArray(): Array<UShort> {\n    return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of UByte containing all of the elements of this generic array. \n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UByte>.toUByteArray(): UByteArray {\n    return UByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UByteArray], which is a copy of this array where each element is an unsigned reinterpretation \n * of the corresponding element of this array. \n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ByteArray.toUByteArray(): UByteArray {\n    return UByteArray(this.copyOf())\n}\n\n/**\n * Returns an array of
UInt containing all of the elements of this generic array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UInt>.toUIntArray(): UIntArray
{\n    return UIntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UIntArray], which is a
copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this
array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.toUIntArray(): UIntArray {\n    return UIntArray(this.copyOf())\n}\n\n/**\n * Returns an array of ULong
containing all of the elements of this generic array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out ULong>.toULongArray():
ULongArray {\n    return ULongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type
[ULongArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.toULongArray(): ULongArray {\n    return ULongArray(this.copyOf())\n}\n\n/**\n * Returns an array
of UShort containing all of the elements of this generic array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UShort>.toUShortArray():
UShortArray {\n    return UShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type
[UShortArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.toUShortArray(): UShortArray {\n    return UShortArray(this.copyOf())\n}\n\n/**\n * Returns a [Map]
where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to
each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map
preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UIntArray.associateWith(valueSelector: (UInt) -> V): Map<UInt, V> {\n    val result = LinkedHashMap<UInt,
V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n * \n * @sample
samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ULongArray.associateWith(valueSelector: (ULong) -> V): Map<ULong, V> {\n    val result =
LinkedHashMap<ULong, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last
one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n *
\n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UByteArray.associateWith(valueSelector: (UByte) -> V): Map<UByte, V> {\n    val result =
LinkedHashMap<UByte, V>(mapCapacity(size).coerceAtLeast(16))\n    return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n *
produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last
one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n *
\n * @sample samples.collections.Collections.Transformations.associateWith\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>

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UShortArray.associateWith(valueSelector: (UShort) -> V): Map<UShort, V> {\n  val result =
LinkedHashMap<UShort, V>(mapCapacity(size).coerceAtLeast(16))\n  return associateWithTo(result,
valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each
element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function
applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n
* @sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in UInt, in V>> UIntArray.associateWithTo(destination: M, valueSelector: (UInt) -> V): M {\n  for
(element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return destination\n}\n\n/**\n *
Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n *
where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If
any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample
samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in ULong, in V>> ULongArray.associateWithTo(destination: M, valueSelector: (ULong) -> V): M
{\n  for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied
to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *
@sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in UByte, in V>> UByteArray.associateWithTo(destination: M, valueSelector: (UByte) -> V): M {\n
for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element
of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied
to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n *
@sample samples.collections.Collections.Transformations.associateWithTo\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M :
MutableMap<in UShort, in V>> UShortArray.associateWithTo(destination: M, valueSelector: (UShort) -> V): M
{\n  for (element in this) {\n    destination.put(element, valueSelector(element))\n  }\n  return
destination\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {\n  return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMap\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element\n * and its index in the original array.\n * \n * @sample
samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.flatMapIndexed(transform: (index: Int, UInt) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.flatMapIndexed(transform: (index: Int, ULong) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.flatMapIndexed(transform: (index: Int, UByte) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.flatMapIndexed(transform: (index: Int, UShort) -> Iterable<R>): List<R> {\n    return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.flatMapIndexedTo(destination: C, transform: (index: Int, UInt) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.flatMapIndexedTo(destination: C, transform: (index: Int, ULong) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.flatMapIndexedTo(destination: C, transform: (index: Int, UByte) ->
Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of

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[transform] function being invoked on each element\n \* and its index in the original array, to the given [destination].\n

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, UShort) -> Iterable<R>): C {\n    var index = 0\n    for (element in this) {\n        val list = transform(index++, element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n    return groupByTo(LinkedHashMap<K, MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> ULongArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n    return groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> UByteArray.groupBy(keySelector: (UByte) -> K): Map<K, List<UByte>> {\n    return groupByTo(LinkedHashMap<K, MutableList<UByte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
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entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>
UShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n return
groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of
corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
UIntArray.groupBy(keySelector: (UInt) -> K, valueTransform: (UInt) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
ULongArray.groupBy(keySelector: (ULong) -> K, valueTransform: (ULong) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
UByteArray.groupBy(keySelector: (UByte) -> K, valueTransform: (UByte) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>
UShortArray.groupBy(keySelector: (UShort) -> K, valueTransform: (UShort) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UInt>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K): M {\n
for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UInt>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<ULong>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K):

```

```

M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<ULong>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UByte>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K):
M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UByte>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UShort>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K):
M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) {
ArrayList<UShort>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K,
valueTransform: (UInt) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K,
valueTransform: (ULong) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K,
valueTransform: (UByte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K,
valueTransform: (UShort) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return

```

destination\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element in the original array.\n \* \n \* @sample samples.collections.Collections.Transformations.map\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.map(transform: (UInt) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element in the original array.\n \* \n \* @sample samples.collections.Collections.Transformations.map\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.map(transform: (ULong) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element in the original array.\n \* \n \* @sample samples.collections.Collections.Transformations.map\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.map(transform: (UByte) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element in the original array.\n \* \n \* @sample samples.collections.Collections.Transformations.map\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.map(transform: (UShort) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element and its index in the original array.\n \* @param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element and its index in the original array.\n \* @param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element and its index in the original array.\n \* @param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.mapIndexed(transform: (index: Int, UByte) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Returns a list containing the results of applying the given [transform] function\n \* to each element and its index in the original array.\n \* @param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.mapIndexed(transform: (index: Int, UShort) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/\*\*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \* @param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/\*\*\n \* Applies the given [transform] function to each element and its index in the original array\n \* and appends the results to the given [destination].\n \* @param [transform] function that takes the index of an element and the element itself\n \* and returns the result of the transform applied to the element.\n \*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n

```

var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an
element and the element itself\n * and returns the result of the transform applied to the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n
var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return
destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an
element and the element itself\n * and returns the result of the transform applied to the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {\n
var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return
destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and
appends the results to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {\n for (item in this)\n
destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each
element of the original array\n * and appends the results to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {\n for (item in
this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform]
function to each element of the original array\n * and appends the results to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {\n for (item in this)\n
destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to
each element of the original array\n * and appends the results to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :
MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {\n for (item in
this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps
each element of the original array\n * into an [IndexedValue] containing the index of that element and the element
itself.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.withIndex():
Iterable<IndexedValue<UInt>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]
that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.withIndex():
Iterable<IndexedValue<ULong>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]
that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.withIndex():
Iterable<IndexedValue<UByte>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]
that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the
element itself.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.withIndex():
Iterable<IndexedValue<UShort>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns `true` if all
elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.all(predicate: (UInt) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ULongArray.all(predicate: (ULong) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}
Returns `true` if all elements match the given [predicate].
@sample samples.collections.Collections.Aggregates.all

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UByteArray.all(predicate: (UByte) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}
Returns `true` if all elements match the given [predicate].
@sample samples.collections.Collections.Aggregates.all

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UShortArray.all(predicate: (UShort) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}
Returns `true` if array has at least one element.
@sample samples.collections.Collections.Aggregates.any

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UIntArray.any(): Boolean {
    return storage.any()
}
Returns `true` if array has at least one element.
@sample samples.collections.Collections.Aggregates.any

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ULongArray.any(): Boolean {
    return storage.any()
}
Returns `true` if array has at least one element.
@sample samples.collections.Collections.Aggregates.any

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UByteArray.any(): Boolean {
    return storage.any()
}
Returns `true` if array has at least one element.
@sample samples.collections.Collections.Aggregates.any

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UShortArray.any(): Boolean {
    return storage.any()
}
Returns `true` if at least one element matches the given [predicate].
@sample samples.collections.Collections.Aggregates.anyWithPredicate

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UIntArray.any(predicate: (UInt) -> Boolean): Boolean {
    for (element in this) if (predicate(element)) return true
    return false
}
Returns `true` if at least one element matches the given [predicate].
@sample samples.collections.Collections.Aggregates.anyWithPredicate

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ULongArray.any(predicate: (ULong) -> Boolean): Boolean {
    for (element in this) if (predicate(element)) return true
    return false
}
Returns `true` if at least one element matches the given [predicate].
@sample samples.collections.Collections.Aggregates.anyWithPredicate

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UByteArray.any(predicate: (UByte) -> Boolean): Boolean {
    for (element in this) if (predicate(element)) return true
    return false
}
Returns `true` if at least one element matches the given [predicate].
@sample samples.collections.Collections.Aggregates.anyWithPredicate

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UShortArray.any(predicate: (UShort) -> Boolean): Boolean {
    for (element in this) if (predicate(element)) return true
    return false
}
Returns the number of elements matching the given [predicate].

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UIntArray.count(predicate: (UInt) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}
Returns the number of elements matching the given [predicate].

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ULongArray.count(predicate: (ULong) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}
Returns the number of elements matching the given [predicate].

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
UByteArray.count(predicate: (UByte) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}
Returns the number of elements matching the given [predicate].

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public

```



```

inline fun UShortArray.count(predicate: (UShort) -> Boolean): Int {
    var count = 0
    for (element in this) if
    (predicate(element)) ++count
    return count
}

/** Accumulates value starting with [initial] value and
    applying [operation] from left to right
    * to current accumulator value and each element.
    * Returns the
    specified [initial] value if the array is empty.
    * @param [operation] function that takes current accumulator
    value and an element, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R {
    var accumulator = initial
    for (element in this)
    accumulator = operation(accumulator, element)
    return accumulator
}

/** Accumulates value starting
    with [initial] value and applying [operation] from left to right
    * to current accumulator value and each element.
    * Returns the specified [initial] value if the array is empty.
    * @param [operation] function that takes
    current accumulator value and an element, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R {
    var accumulator = initial
    for (element in
    this) accumulator = operation(accumulator, element)
    return accumulator
}

/** Accumulates value
    starting with [initial] value and applying [operation] from left to right
    * to current accumulator value and each
    element.
    * Returns the specified [initial] value if the array is empty.
    * @param [operation] function that
    takes current accumulator value and an element, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R {
    var accumulator = initial
    for (element in
    this) accumulator = operation(accumulator, element)
    return accumulator
}

/** Accumulates value
    starting with [initial] value and applying [operation] from left to right
    * to current accumulator value and each
    element.
    * Returns the specified [initial] value if the array is empty.
    * @param [operation] function that
    takes current accumulator value and an element, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R {
    var accumulator = initial
    for (element in
    this) accumulator = operation(accumulator, element)
    return accumulator
}

/** Accumulates value
    starting with [initial] value and applying [operation] from left to right
    * to current accumulator value and each
    element with its index in the original array.
    * Returns the specified [initial] value if the array is empty.
    * @param [operation] function that takes the index of an element, current accumulator value
    * and the element
    itself, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
UIntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): R {
    var index = 0
    var
    accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return
    accumulator
}

/** Accumulates value starting with [initial] value and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * Returns the
    specified [initial] value if the array is empty.
    * @param [operation] function that takes the index of an
    element, current accumulator value
    * and the element itself, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R {
    var index = 0
    var
    accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return
    accumulator
}

/** Accumulates value starting with [initial] value and applying [operation] from left to
    right
    * to current accumulator value and each element with its index in the original array.
    * Returns the
    specified [initial] value if the array is empty.
    * @param [operation] function that takes the index of an
    element, current accumulator value
    * and the element itself, and calculates the next accumulator value.
    */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R>
UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R {
    var index = 0
    var
    accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return
    accumulator
}

```

```

right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator =
initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
ULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {\n  var index = lastIndex\n  var
accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {\n  var index = lastIndex\n  var
accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is
empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the
next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {\n  var index = lastIndex\n  var
accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the
specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an
element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {\n  var index = lastIndex\n
var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n
--index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
*\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the
index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator
value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
<R> ULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {\n  var index =
lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index),

```

accumulator)\n --index\n }\n return accumulator\n}\n\n/\*\*\n \* Accumulates value starting with [initial] value and applying [operation] from right to left\n \* to each element with its index in the original array and current accumulator value.\n \* \n \* Returns the specified [initial] value if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, the element itself\n \* and current accumulator value, and calculates the next accumulator value.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.foldRightIndexed(initial: R, operation: (index: Int, UByte, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {\n    var index = lastIndex\n    var accumulator = initial\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.forEach(action: (UInt) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.forEach(action: (ULong) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.forEach(action: (UByte) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.forEach(action: (UShort) -> Unit): Unit {\n    for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.forEachIndexed(action: (index: Int, ULong) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.forEachIndexed(action: (index: Int, UByte) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * \n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n@Deprecated("Use maxOrNull instead.")\n
```

```

ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.max():
UInt? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.\",
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.max():
ULong? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.\",
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.max():
UByte? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxOrNull instead.\",
ReplaceWith("this.maxOrNull()")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.max():
UShort? {\n    return maxOrNull()\n}\n\n@Deprecated("Use maxByOrNull instead.\",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.\",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.\",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte? {\n    return
maxByOrNull(selector)\n}\n\n@Deprecated("Use maxByOrNull instead.\",
ReplaceWith("this.maxByOrNull(selector)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince =
"1.5", hiddenSince =
"1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort? {\n    return
maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxByOrNull(selector: (UInt) -> R): UInt? {\n    if (isEmpty()) return null\n    var
maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.maxByOrNull(selector: (ULong) -> R): ULong? {\n    if (isEmpty()) return null\n
var maxElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return maxElem\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :

```

```
Comparable<R>> UByteArray.maxByOrNull(selector: (UByte) -> R): UByte? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}
```

\* Returns the first element yielding the largest value of the given function or `null` if there are no elements.

@sample  
samples.collections.Collections.Aggregates.maxByOrNull

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.maxByOrNull(selector: (UShort) -> R): UShort? {
    if (isEmpty()) return null
    var maxElem = this[0]
    val lastIndex = this.lastIndex
    if (lastIndex == 0) return maxElem
    var maxValue = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxValue < v) {
            maxElem = e
            maxValue = v
        }
    }
    return maxElem
}
```

\* Returns the largest value among all values produced by [selector] function applied to each element in the array.

\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws  
NoSuchElementException if the array is empty.

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.maxOf(selector: (UInt) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
```

\* Returns the largest value among all values produced by [selector] function applied to each element in the array.

\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

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NoSuchElementException if the array is empty.

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.maxOf(selector: (ULong) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
```

\* Returns the largest value among all values produced by [selector] function applied to each element in the array.

\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

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NoSuchElementException if the array is empty.

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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.maxOf(selector: (UByte) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
```

\* Returns the largest value among all values produced by [selector] function applied to each element in the array.

\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws  
NoSuchElementException if the array is empty.

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.maxOf(selector: (UShort) -> Double): Double {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
```

\* Returns the largest value among all values produced by [selector] function applied to each element in the array.

\* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.

@throws  
NoSuchElementException if the array is empty.

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.maxOf(selector: (UInt) -> Float): Float {
    if (isEmpty()) throw NoSuchElementException()
    var maxValue = selector(this[0])
    for (i in 1..lastIndex) {
        val v = selector(this[i])
        maxValue = maxOf(maxValue, v)
    }
    return maxValue
}
```

\* Returns the largest value among all values produced

```

by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.maxOf(selector: (ULong) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.maxOf(selector: (UByte) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var
maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =
maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxOf(selector: (UInt) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.maxOf(selector: (ULong) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.maxOf(selector: (UByte) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (maxValue < v) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n *
Returns the largest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.maxOf(selector: (UShort) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =

```

`selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n } return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n`

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.maxOrNull(selector: (UInt) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.maxOrNull(selector: (ULong) -> Double): Double? {\n    if (isEmpty()) return null\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =\n        maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.maxOrNull(selector: (UByte) -> Double): Double? {\n    if (isEmpty()) return null\n    var maxValue\n    = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue,\n        v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector]\n * function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced\n * by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.maxOrNull(selector: (UShort) -> Double): Double? {\n    if (isEmpty()) return null\n    var\n    maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue =\n        maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced\n * by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of\n * values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.maxOrNull(selector: (UInt) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]\n * function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.maxOrNull(selector: (ULong) -> Float): Float? {\n    if (isEmpty()) return null\n    var maxValue =\n    selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        maxValue = maxOf(maxValue, v)\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector]\n * function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution\nByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
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UByteArray.maxOrNull(selector: (UByte) -> Float): Float? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n}\n/\*\*\n \* Returns the largest value among all values produced by [selector] function\n \* applied to each element in the array or `null` if there are no elements.\n \* \n \* If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

\*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.maxOrNull(selector: (UShort) -> Float): Float? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue}\n}\n/\*\*\n \* Returns the largest value among all values produced by [selector] function\n \* applied to each element in the array or `null` if there are no elements.\n

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\*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.maxOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue}\n}\n/\*\*\n \* Returns the largest value according to the provided [comparator]\n \* among all values produced by [selector] function applied to each element in the array.\n \* \n \* @throws NoSuchElementException if the array is empty.\n

\*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.maxOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =



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selector(this[i])\n    if (comparator.compare(maxValue, v) < 0) {\n        maxValue = v\n    }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
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UByteArray.maxOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.maxOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n    if (isEmpty()) throw
NoSuchElementException()\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v =
selector(this[i])\n        if (comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n    if (isEmpty()) return
null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector]
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n    if (isEmpty())
return null\n    var maxValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(maxValue, v) < 0) {\n            maxValue = v\n        }\n    }\n    return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxOrNull(): UInt? {\n    if
(isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max

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= e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxOrNull(): ULong? {\n if
(isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max
= e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxOrNull(): UByte? {\n if
(isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max
= e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxOrNull(): UShort? {\n if
(isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max
= e\n }\n return max\n}\n\n@Deprecated("Use maxWithOrNull instead."),
ReplaceWith("this.maxWithOrNull(comparator)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.maxWith(comparator: Comparator<in UInt>): UInt? {\n return
maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead."),
ReplaceWith("this.maxWithOrNull(comparator)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.maxWith(comparator: Comparator<in ULong>): ULong? {\n return
maxWithOrNull(comparator)\n}\n\n@Deprecated("Use maxWithOrNull instead."),
ReplaceWith("this.maxWithOrNull(comparator)")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
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= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.maxWith(comparator: Comparator<in UShort>): UShort? {\n return
maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the
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Comparator<in UByte>): UByte? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the
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Comparator<in UShort>): UShort? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return
max\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.min(): UInt?
{\n return minOrNull()\n}\n\n@Deprecated("Use minOrNull instead."),
ReplaceWith("this.minOrNull()")\n)\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.5",
hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.min():

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ULong? {\n  return minOrNull()\n}\n\n@Deprecated(\\"Use minOrNull instead.\",
ReplaceWith(\\"this.minOrNull()\")\n)\n@DeprecatedSinceKotlin(warningSince = \\"1.4\", errorSince = \\"1.5\",
hiddenSince = \\"1.6\")\n\n@SinceKotlin(\\"1.3\")\n\n@ExperimentalUnsignedTypes\n\npublic fun UByteArray.min():
UByte? {\n  return minOrNull()\n}\n\n@Deprecated(\\"Use minOrNull instead.\",
ReplaceWith(\\"this.minOrNull()\")\n)\n@DeprecatedSinceKotlin(warningSince = \\"1.4\", errorSince = \\"1.5\",
hiddenSince = \\"1.6\")\n\n@SinceKotlin(\\"1.3\")\n\n@ExperimentalUnsignedTypes\n\npublic fun UShortArray.min():
UShort? {\n  return minOrNull()\n}\n\n@Deprecated(\\"Use minByOrNull instead.\",
ReplaceWith(\\"this.minByOrNull(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = \\"1.4\", errorSince =
\\"1.5\", hiddenSince =
\\"1.6\")\n\n@SinceKotlin(\\"1.3\")\n\n@ExperimentalUnsignedTypes\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
<R : Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt? {\n  return
minByOrNull(selector)\n}\n\n@Deprecated(\\"Use minByOrNull instead.\",
ReplaceWith(\\"this.minByOrNull(selector)\")\n)\n@DeprecatedSinceKotlin(warningSince = \\"1.4\", errorSince =
\\"1.5\", hiddenSince =
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\\"1.5\", hiddenSince =
\\"1.6\")\n\n@SinceKotlin(\\"1.3\")\n\n@ExperimentalUnsignedTypes\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
<R : Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort? {\n  return
minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n
*\n\n@SinceKotlin(\\"1.4\")\n\n@ExperimentalUnsignedTypes\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <R :
Comparable<R>> UIntArray.minByOrNull(selector: (UInt) -> R): UInt? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.minByOrNull\n
*\n\n@SinceKotlin(\\"1.4\")\n\n@ExperimentalUnsignedTypes\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <R :
Comparable<R>> ULongArray.minByOrNull(selector: (ULong) -> R): ULong? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
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*\n\n@SinceKotlin(\\"1.4\")\n\n@ExperimentalUnsignedTypes\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <R :
Comparable<R>> UByteArray.minByOrNull(selector: (UByte) -> R): UByte? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  val lastIndex = this.lastIndex\n  if (lastIndex == 0) return minElem\n  var minValue =
selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v = selector(e)\n    if (minValue > v)
{\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first
element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample

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samples.collections.Collections.Aggregates.minByOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.minByOrNull(selector: (UShort) -> R): UShort? {\n    if (isEmpty()) return null\n    var minElem = this[0]\n    val lastIndex = this.lastIndex\n    if (lastIndex == 0) return minElem\n    var minValue = selector(minElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (minValue > v) {\n            minElem = e\n            minValue = v\n        }\n    }\n    return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.minOf(selector: (UInt) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.minOf(selector: (ULong) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.minOf(selector: (UByte) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.minOf(selector: (UShort) -> Double): Double {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values 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*/\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.minOf(selector: (ULong) -> Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        minValue =

```

```

minOf(minValue, v)\n } return minValue\n\n\n**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ByteArray.minOf(selector: (UByte) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var
minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue =
minOf(minValue, v)\n }\n return minValue\n\n\n**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UShortArray.minOf(selector: (UShort) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n
var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue =
minOf(minValue, v)\n }\n return minValue\n\n\n**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the
array is empty.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> UIntArray.minOf(selector: (UInt) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n\n\n**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> ULongArray.minOf(selector: (ULong) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n\n\n**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
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ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> UByteArray.minOf(selector: (UByte) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n\n\n**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the
array.\n * \n * @throws NoSuchElementException if the array is empty.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R :
Comparable<R>> UShortArray.minOf(selector: (UShort) -> R): R {\n if (isEmpty()) throw
NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n\n\n**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array
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result is `NaN`.\n
*\n @SinceKotlin("1.4")\n @OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n @OverloadResolution
ByLambdaReturnType\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun

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```
UIntArray.minOrNull(selector: (UInt) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
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```
ULongArray.minOrNull(selector: (ULong) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```
UShortArray.minOrNull(selector: (UShort) -> Double): Double? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```
UIntArray.minOrNull(selector: (UInt) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
```

```
ULongArray.minOrNull(selector: (ULong) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
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UByteArray.minOrNull(selector: (UByte) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
```

```
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
```

```

ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.minOfOrNull(selector: (UShort) -> Float): Float? {\n  if (isEmpty()) return null\n  var minValue =
selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    minValue = minOf(minValue, v)\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minOfOrNull(selector: (UInt) -> R): R? {\n  if (isEmpty()) return null\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n * Returns the smallest value among all values
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.minOfOrNull(selector: (ULong) -> R): R? {\n  if (isEmpty()) return null\n  var
minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
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minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if (minValue > v) {\n
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provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n */\n\n*\n @throws NoSuchElementException if the array is empty.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.minOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
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ULongArray.minOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n  if (isEmpty()) throw
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selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
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the array is empty.\n */\n\n*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>

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ByteArray.minOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R { \n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if
the array is empty.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UShortArray.minOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R { \n  if (isEmpty()) throw
NoSuchElementException()\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v =
selector(this[i])\n    if (comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return
minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values
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*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UIntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? { \n  if (isEmpty()) return
null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
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ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
ULongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? { \n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
UByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? { \n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
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UShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? { \n  if (isEmpty())
return null\n  var minValue = selector(this[0])\n  for (i in 1..lastIndex) {\n    val v = selector(this[i])\n    if
(comparator.compare(minValue, v) > 0) {\n      minValue = v\n    }\n  }\n  return minValue\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minOrNull(): UInt? { \n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min =
e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minOrNull(): ULong? { \n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min =
e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minOrNull(): UByte? { \n  if
(isEmpty()) return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min =

```



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e\n } \n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minOrNull(): UShort? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.minWith(comparator: Comparator<in UInt>): UInt? {\n return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.minWith(comparator: Comparator<in ULong>): ULong? {\n return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.minWith(comparator: Comparator<in UByte>): UByte? {\n return
minWithOrNull(comparator)\n}\n\n@Deprecated("Use minWithOrNull instead.")
ReplaceWith("this.minWithOrNull(comparator)")\n@DeprecatedSinceKotlin(warningSince = "1.4", errorSince
= "1.5", hiddenSince = "1.6")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.minWith(comparator: Comparator<in UShort>): UShort? {\n return
minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the
provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the first
element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minWithOrNull(comparator:
Comparator<in UByte>): UByte? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns the
first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWithOrNull(comparator:
Comparator<in UShort>): UShort? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n
val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns
`true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(): Boolean {\n return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given

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[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(predicate: (UShort) -> Boolean): Boolean {\n for (element in this) if (predicate(element))
return false\n return true\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.onEach(action: (UInt) -> Unit): UIntArray {\n return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.onEach(action: (ULong) -> Unit): ULongArray {\n return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UByteArray.onEach(action: (UByte) -> Unit): UByteArray {\n return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself
afterwards.\n * \n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UShortArray.onEach(action: (UShort) -> Unit): UShortArray {\n return apply { for (element in this)
action(element) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the
element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element
and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.onEachIndexed(action: (index: Int, UInt) -> Unit): UIntArray {\n return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.onEachIndexed(action: (index: Int, ULong) -> Unit): ULongArray {\n return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.onEachIndexed(action: (index: Int, UByte) -> Unit): UByteArray {\n return apply {
forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index
with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an
element and the element itself\n * and performs the action on the element.\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.onEachIndexed(action: (index: Int, UShort) -> Unit): UShortArray {\n return apply {
forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]

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from left to right  
 \* to current accumulator value and each element.  
 \* Throws an exception if this array is empty. If the array can be empty in an expected way, please use [reduceOrNull] instead. It returns `null` when its receiver is empty.  
 \* @param [operation] function that takes current accumulator value and an element,  
 \* and calculates the next accumulator value.  
 \* @sample samples.collections.Collections.Aggregates.reduce

```

* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt { \n if (isEmpty()) \n throw
UnsupportedOperationException("Empty array can't be reduced.") \n var accumulator = this[0] \n for (index in
1..lastIndex) { \n accumulator = operation(accumulator, this[index]) \n } \n return accumulator \n } \n /** \n
Accumulates value starting with the first element and applying [operation] from left to right
* to current
accumulator value and each element. \n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way, \n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty. \n * \n *
@param [operation] function that takes current accumulator value and an element, \n * and calculates the next
accumulator value. \n * \n * @sample samples.collections.Collections.Aggregates.reduce
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
ULongArray.reduce(operation: (acc: ULong, ULong) -> ULong): ULong { \n if (isEmpty()) \n throw
UnsupportedOperationException("Empty array can't be reduced.") \n var accumulator = this[0] \n for (index in
1..lastIndex) { \n accumulator = operation(accumulator, this[index]) \n } \n return accumulator \n } \n /** \n
Accumulates value starting with the first element and applying [operation] from left to right
* to current
accumulator value and each element. \n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way, \n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty. \n * \n *
@param [operation] function that takes current accumulator value and an element, \n * and calculates the next
accumulator value. \n * \n * @sample samples.collections.Collections.Aggregates.reduce
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte { \n if (isEmpty()) \n throw
UnsupportedOperationException("Empty array can't be reduced.") \n var accumulator = this[0] \n for (index in
1..lastIndex) { \n accumulator = operation(accumulator, this[index]) \n } \n return accumulator \n } \n /** \n
Accumulates value starting with the first element and applying [operation] from left to right
* to current
accumulator value and each element. \n * \n * Throws an exception if this array is empty. If the array can be empty
in an expected way, \n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty. \n * \n *
@param [operation] function that takes current accumulator value and an element, \n * and calculates the next
accumulator value. \n * \n * @sample samples.collections.Collections.Aggregates.reduce
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UShortArray.reduce(operation: (acc: UShort, UShort) -> UShort): UShort { \n if (isEmpty()) \n throw
UnsupportedOperationException("Empty array can't be reduced.") \n var accumulator = this[0] \n for (index in
1..lastIndex) { \n accumulator = operation(accumulator, this[index]) \n } \n return accumulator \n } \n /** \n
Accumulates value starting with the first element and applying [operation] from left to right
* to current
accumulator value and each element with its index in the original array. \n * \n * Throws an exception if this array is
empty. If the array can be empty in an expected way, \n * please use [reduceIndexedOrNull] instead. It returns `null`
when its receiver is empty. \n * \n * @param [operation] function that takes the index of an element, current
accumulator value and the element itself, \n * and calculates the next accumulator value. \n * \n * @sample
samples.collections.Collections.Aggregates.reduce
* \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt { \n if (isEmpty()) \n throw
UnsupportedOperationException("Empty array can't be reduced.") \n var accumulator = this[0] \n for (index in
1..lastIndex) { \n accumulator = operation(index, accumulator, this[index]) \n } \n return
accumulator \n } \n /** \n
Accumulates value starting with the first element and applying [operation] from left to
right
* to current accumulator value and each element with its index in the original array. \n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way, \n * please use [reduceIndexedOrNull]

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instead. It returns `null` when its receiver is empty.

```

@sample samples.collections.Collections.Aggregates.reduce
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {n if (isEmpty())n
throw UnsupportedOperationException("Empty array can't be reduced.")n var accumulator = this[0]n for
(index in 1..lastIndex) {n accumulator = operation(index, accumulator, this[index])n }n return
accumulatorn}n/n/**n * Accumulates value starting with the first element and applying [operation] from left to
rightn * to current accumulator value and each element with its index in the original array.n * n * Throws an
exception if this array is empty. If the array can be empty in an expected way,n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.n * n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself,n * and calculates the next accumulator value.n * n *
@sample samples.collections.Collections.Aggregates.reduce
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UByteArray.reduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte {n if (isEmpty())n
throw UnsupportedOperationException("Empty array can't be reduced.")n var accumulator = this[0]n for
(index in 1..lastIndex) {n accumulator = operation(index, accumulator, this[index])n }n return
accumulatorn}n/n/**n * Accumulates value starting with the first element and applying [operation] from left to
rightn * to current accumulator value and each element with its index in the original array.n * n * Throws an
exception if this array is empty. If the array can be empty in an expected way,n * please use [reduceIndexedOrNull]
instead. It returns `null` when its receiver is empty.n * n * @param [operation] function that takes the index of an
element, current accumulator value and the element itself,n * and calculates the next accumulator value.n * n *
@sample samples.collections.Collections.Aggregates.reduce
*/n@SinceKotlin("1.3")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UShortArray.reduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort {n if (isEmpty())n
throw UnsupportedOperationException("Empty array can't be reduced.")n var accumulator = this[0]n for
(index in 1..lastIndex) {n accumulator = operation(index, accumulator, this[index])n }n return
accumulatorn}n/n/**n * Accumulates value starting with the first element and applying [operation] from left to
rightn * to current accumulator value and each element with its index in the original array.n * n * Returns `null` if
the array is empty.n * n * @param [operation] function that takes the index of an element, current accumulator
value and the element itself,n * and calculates the next accumulator value.n * n * @sample
samples.collections.Collections.Aggregates.reduceOrNulln
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UIntArray.reduceIndexedOrNull(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt? {n if (isEmpty())n
return nulln var accumulator = this[0]n for (index in 1..lastIndex) {n accumulator = operation(index,
accumulator, this[index])n }n return accumulatorn}n/n/**n * Accumulates value starting with the first
element and applying [operation] from left to rightn * to current accumulator value and each element with its index
in the original array.n * n * Returns `null` if the array is empty.n * n * @param [operation] function that takes the
index of an element, current accumulator value and the element itself,n * and calculates the next accumulator
value.n * n * @sample samples.collections.Collections.Aggregates.reduceOrNulln
*/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
ULongArray.reduceIndexedOrNull(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong? {n if
(isEmpty())n return nulln var accumulator = this[0]n for (index in 1..lastIndex) {n accumulator =
operation(index, accumulator, this[index])n }n return accumulatorn}n/n/**n * Accumulates value starting
with the first element and applying [operation] from left to rightn * to current accumulator value and each element
with its index in the original array.n * n * Returns `null` if the array is empty.n * n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,n * and calculates the
next accumulator value.n * n * @sample samples.collections.Collections.Aggregates.reduceOrNulln

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*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexedOrNull(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte? {\n if
(isEmpty())\n    return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator =
operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each element
with its index in the original array.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexedOrNull(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort? {\n if
(isEmpty())\n    return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator =
operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceOrNull(operation: (acc: UInt, UInt) -> UInt): UInt?
{\n if (isEmpty())\n    return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n
accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value
starting with the first element and applying [operation] from left to right\n * to current accumulator value and each
element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceOrNull(operation: (acc: ULong, ULong) ->
ULong): ULong? {\n if (isEmpty())\n    return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex)
{\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates
value starting with the first element and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceOrNull(operation: (acc: UByte, UByte) ->
UByte): UByte? {\n if (isEmpty())\n    return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex)
{\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates
value starting with the first element and applying [operation] from left to right\n * to current accumulator value and
each element.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that takes current
accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceOrNull(operation: (acc: UShort, UShort) ->
UShort): UShort? {\n if (isEmpty())\n    return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex)
{\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates
value starting with the last element and applying [operation] from right to left\n * to each element and current
accumulator value.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected
way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator

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value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRight(operation: (UInt, acc: UInt) -> UInt): UInt {\n  var index = lastIndex\n  if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRight(operation: (ULong, acc: ULong) -> ULong): ULong {\n  var index = lastIndex\n  if
(index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRight(operation: (UByte, acc: UByte) -> UByte): UByte {\n  var index = lastIndex\n  if (index
< 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator = get(index--)\n
while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Throws an exception if this array is empty. If the
array can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its
receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRight(operation: (UShort, acc: UShort) -> UShort): UShort {\n  var index = lastIndex\n  if
(index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * \n * Throws an
exception if this array is empty. If the array can be empty in an expected way,\n * please use
[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRightIndexed(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt {\n  var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n  var accumulator =
get(index--)\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n
}\n  return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation]
from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n *
Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use

```

[reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.

```

 * \n * @param [operation]
function that takes the index of an element, the element itself and current accumulator value,
 * \n * and calculates the next accumulator value.
 * \n * @sample samples.collections.Collections.Aggregates.reduceRight
 * \n
 * \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
ULongArray.reduceRightIndexed(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong {
 * \n   var index =
lastIndex
 * \n   if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 * \n   var
accumulator = get(index--)
 * \n   while (index >= 0) {
 * \n     accumulator = operation(index, get(index),
accumulator)
 * \n     --index
 * \n   }
 * \n   return accumulator
 * \n }
 * \n
 * \n /**
 * \n * Accumulates value starting with the last
element and applying [operation] from right to left
 * \n * to each element with its index in the original array and
current accumulator value.
 * \n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,
 * \n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
 * \n * \n *
 * \n * @param [operation] function that takes the index of an element, the element itself and current accumulator
value,
 * \n * and calculates the next accumulator value.
 * \n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight
 * \n
 * \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UByteArray.reduceRightIndexed(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte {
 * \n   var index =
lastIndex
 * \n   if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 * \n   var
accumulator = get(index--)
 * \n   while (index >= 0) {
 * \n     accumulator = operation(index, get(index),
accumulator)
 * \n     --index
 * \n   }
 * \n   return accumulator
 * \n }
 * \n
 * \n /**
 * \n * Accumulates value starting with the last
element and applying [operation] from right to left
 * \n * to each element with its index in the original array and
current accumulator value.
 * \n * \n * Throws an exception if this array is empty. If the array can be empty in an
expected way,
 * \n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.
 * \n * \n *
 * \n * @param [operation] function that takes the index of an element, the element itself and current accumulator
value,
 * \n * and calculates the next accumulator value.
 * \n * \n * @sample
samples.collections.Collections.Aggregates.reduceRight
 * \n
 * \n @SinceKotlin("1.3") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UShortArray.reduceRightIndexed(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort {
 * \n   var index =
lastIndex
 * \n   if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")
 * \n   var
accumulator = get(index--)
 * \n   while (index >= 0) {
 * \n     accumulator = operation(index, get(index),
accumulator)
 * \n     --index
 * \n   }
 * \n   return accumulator
 * \n }
 * \n
 * \n /**
 * \n * Accumulates value starting with the last
element and applying [operation] from right to left
 * \n * to each element with its index in the original array and
current accumulator value.
 * \n * \n * Returns `null` if the array is empty.
 * \n * \n * @param [operation] function that
takes the index of an element, the element itself and current accumulator value,
 * \n * and calculates the next
accumulator value.
 * \n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull
 * \n
 * \n @SinceKotlin("1.4") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
UIntArray.reduceRightIndexedOrNull(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt? {
 * \n   var index =
lastIndex
 * \n   if (index < 0) return null
 * \n   var accumulator = get(index--)
 * \n   while (index >= 0) {
 * \n     accumulator = operation(index, get(index), accumulator)
 * \n     --index
 * \n   }
 * \n   return accumulator
 * \n }
 * \n
 * \n /**
 * \n * Accumulates value starting with the last element and applying [operation] from right to left
 * \n * to each element with
its index in the original array and current accumulator value.
 * \n * \n * Returns `null` if the array is empty.
 * \n * \n *
 * \n * @param [operation] function that takes the index of an element, the element itself and current accumulator value,
 * \n * and calculates the next accumulator value.
 * \n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull
 * \n
 * \n @SinceKotlin("1.4") \n @ExperimentalUnsignedTypes \n @kotlin.internal.InlineOnly \n public inline fun
ULongArray.reduceRightIndexedOrNull(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong? {
 * \n   var
index = lastIndex
 * \n   if (index < 0) return null
 * \n   var accumulator = get(index--)
 * \n   while (index >= 0) {
 * \n     accumulator = operation(index, get(index), accumulator)
 * \n     --index
 * \n   }
 * \n   return accumulator
 * \n }
 * \n
 * \n /**
 * \n * Accumulates value starting with the last element and applying [operation] from right to left
 * \n * to each element with

```

its index in the original array and current accumulator value.\n \* \n \* Returns `null` if the array is empty.\n \* \n \* @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n \* and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n

```

*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceRightIndexedOrNull(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte? {\n var
index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n *
@param [operation] function that takes the index of an element, the element itself and current accumulator value,\n *
and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceRightIndexedOrNull(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort? {\n var
index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceRightOrNull(operation: (UInt, acc: UInt) -> UInt):
UInt? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index
>= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and
current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param [operation] function that
takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceRightOrNull(operation: (ULong, acc: ULong) ->
ULong): ULong? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduceRightOrNull(operation: (UByte, acc: UByte) ->
UByte): UByte? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to
left\n * to each element and current accumulator value.\n * \n * Returns `null` if the array is empty.\n * \n * @param
[operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator
value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduceRightOrNull(operation: (UShort, acc: UShort) ->
UShort): UShort? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n

```



```

while (index >= 0) {
    accumulator = operation(get(index--), accumulator)
}
return accumulator
}
}

```

\* Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

\* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

\* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.runningFold

```

```

* Since Kotlin("1.4") ExperimentalUnsignedTypes @kotlin.internal.InlineOnly
public inline fun <R>
UIntArray.runningFold(initial: R, operation: (acc: R, UInt) -> R): List<R> {
    if (isEmpty()) return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (element in this) {
        accumulator = operation(accumulator, element)
        result.add(accumulator)
    }
    return result
}
}

```

\* Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

\* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

\* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.runningFold

```

```

* Since Kotlin("1.4") ExperimentalUnsignedTypes @kotlin.internal.InlineOnly
public inline fun <R>
ULongArray.runningFold(initial: R, operation: (acc: R, ULong) -> R): List<R> {
    if (isEmpty()) return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (element in this) {
        accumulator = operation(accumulator, element)
        result.add(accumulator)
    }
    return result
}
}

```

\* Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

\* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

\* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.runningFold

```

```

* Since Kotlin("1.4") ExperimentalUnsignedTypes @kotlin.internal.InlineOnly
public inline fun <R>
UByteArray.runningFold(initial: R, operation: (acc: R, UByte) -> R): List<R> {
    if (isEmpty()) return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (element in this) {
        accumulator = operation(accumulator, element)
        result.add(accumulator)
    }
    return result
}
}

```

\* Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with [initial] value.

\* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

\* @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.runningFold

```

```

* Since Kotlin("1.4") ExperimentalUnsignedTypes @kotlin.internal.InlineOnly
public inline fun <R>
UShortArray.runningFold(initial: R, operation: (acc: R, UShort) -> R): List<R> {
    if (isEmpty()) return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (element in this) {
        accumulator = operation(accumulator, element)
        result.add(accumulator)
    }
    return result
}
}

```

\* Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value.

\* Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.

\* @param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.

@sample

```

samples.collections.Collections.Aggregates.runningFold

```

```

* Since Kotlin("1.4") ExperimentalUnsignedTypes @kotlin.internal.InlineOnly
public inline fun <R>

```

```

UIntArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): List<R> {
    if (isEmpty())
    return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (index in indices) {
        accumulator = operation(index, accumulator, this[index])
    }
    result.add(accumulator)
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value.
 Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.
 @param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.runningFold

```

*\/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun <R>
ULongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): List<R> {
    if (isEmpty())
    return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (index in indices) {
        accumulator = operation(index, accumulator, this[index])
    }
    result.add(accumulator)
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value.
 Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.
 @param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.runningFold

```

*\/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun <R>
UByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): List<R> {
    if (isEmpty())
    return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (index in indices) {
        accumulator = operation(index, accumulator, this[index])
    }
    result.add(accumulator)
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element, its index in the original array and current accumulator value that starts with [initial] value.
 Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.
 @param [operation] function that takes the index of an element, current accumulator value and the element itself, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.runningFold

```

*\/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun <R>
UShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): List<R> {
    if (isEmpty())
    return listOf(initial)
    val result = ArrayList<R>(size + 1).apply { add(initial) }
    var accumulator = initial
    for (index in indices) {
        accumulator = operation(index, accumulator, this[index])
    }
    result.add(accumulator)
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with the first element of this array.
 Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.
 @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.
 @sample samples.collections.Collections.Aggregates.runningReduce

```

*\/n@SinceKotlin("1.4")n@ExperimentalUnsignedTypesn@kotlin.internal.InlineOnlynpublic inline fun
UIntArray.runningReduce(operation: (acc: UInt, UInt) -> UInt): List<UInt> {
    if (isEmpty())
    return emptyList()
    var accumulator = this[0]
    val result = ArrayList<UInt>(size).apply { add(accumulator) }
    for (index in 1 until size) {
        accumulator = operation(accumulator, this[index])
        result.add(accumulator)
    }
    return result
}

```

Returns a list containing successive accumulation values generated by applying [operation] from left to right to each element and current accumulator value that starts with the first element of this array.
 Note that `acc` value passed to [operation] function should not be mutated; otherwise it would affect the previous value in resulting list.
 @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.
 @sample

```

samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.runningReduce(operation: (acc: ULong, ULong) -> ULong): List<ULong> {\n  if (isEmpty()) return
emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<ULong>(size).apply { add(accumulator) }\n
for (index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample

```

```

samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.runningReduce(operation: (acc: UByte, UByte) -> UByte): List<UByte> {\n  if (isEmpty()) return
emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UByte>(size).apply { add(accumulator) }\n
for (index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element and current accumulator value that starts with the first element of
this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would
affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n * \n * @sample

```

```

samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.runningReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {\n  if (isEmpty()) return
emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UShort>(size).apply { add(accumulator) }\n
for (index in 1 until size) {\n    accumulator = operation(accumulator, this[index])\n    result.add(accumulator)\n
  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying
[operation] from left to right\n * to each element, its index in the original array and current accumulator value that
starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be
mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that
takes the index of an element, current accumulator value\n * and the element itself, and calculates the next
accumulator value.\n * \n * @sample

```

```

samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.runningReduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): List<UInt> {\n  if (isEmpty())
return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UInt>(size).apply { add(accumulator)
}\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample

```

```

samples.collections.Collections.Aggregates.runningReduce\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.runningReduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): List<ULong> {\n  if
(isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<ULong>(size).apply {
add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n
result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and

```

current accumulator value that starts with the first element of this array.\n \* \n \* Note that `acc` value passed to [operation] function should not be mutated;\n \* otherwise it would affect the previous value in resulting list.\n \* \n \* @param [operation] function that takes the index of an element, current accumulator value\n \* and the element itself, and calculates the next accumulator value.\n \* \n \* @sample samples.collections.Collections.Aggregates.runningReduce\n

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.runningReduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): List<UByte> {\n  if
(isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UByte>(size).apply {
add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n *
@param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.runningReduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): List<UShort> {\n  if
(isEmpty()) return emptyList()\n  var accumulator = this[0]\n  val result = ArrayList<UShort>(size).apply {
add(accumulator) }\n  for (index in 1 until size) {\n    accumulator = operation(index, accumulator, this[index])\n    result.add(accumulator)\n  }\n  return result\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scan(initial: R, operation: (acc: R, UInt) -> R):
List<R> {\n  return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scan(initial: R, operation: (acc: R, ULong) -> R):
List<R> {\n  return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scan(initial: R, operation: (acc: R, UByte) -> R):
List<R> {\n  return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element and current accumulator value that
starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current
```

```

accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scan(initial: R, operation: (acc: R, UShort) -> R):
List<R> {\n    return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original array and
current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function
should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.scanIndexed(initial: R, operation: (index: Int, acc: R,
UInt) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, ULong) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list
containing successive accumulation values generated by applying [operation] from left to right\n * to each element,
its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc`
value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in
resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n *
and the element itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, UByte) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing
successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in
the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed
to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n *
\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element
itself, and calculates the next accumulator value.\n * \n * @sample
samples.collections.Collections.Aggregates.scan\n
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalStdlibApi::class)\n
@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scanIndexed(initial: R, operation: (index: Int, acc:
R, UShort) -> R): List<R> {\n    return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n * \n *\n * @Deprecated("Use sumOf
instead.", ReplaceWith("this.sumOf(selector)"))\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n * \n *\n * @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))\n * @DeprecatedSinceKotlin(warningSince =
"1.5")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

ULongArray.sumBy(selector: (ULong) -> UInt): UInt {
    var sum: UInt = 0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.sumBy(selector: (UByte) -> UInt): UInt {
    var sum: UInt = 0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.sumBy(selector: (UShort) -> UInt): UInt {
    var sum: UInt = 0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UIntArray.sumByDouble(selector: (UInt) -> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.sumByDouble(selector: (ULong) -> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.sumByDouble(selector: (UByte) -> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @Deprecated("Use sumOf instead.",
ReplaceWith("this.sumOf(selector)"))
@DeprecatedSinceKotlin(warningSince =
"1.5")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.sumByDouble(selector: (UShort) -> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UIntArray.sumOf(selector: (UInt) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun ULongArray.sumOf(selector: (ULong) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
* Returns the sum of all values produced by [selector] function applied to each element in the array.
* @SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
@kotlin.jvm.JvmName("sumOfDouble")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun UByteArray.sumOf(selector:

```

```

(UByte) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfDouble")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun UShortArray.sumOf(selector: (UShort) -> Double): Double {
    var sum: Double = 0.toDouble()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfInt")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun UIntArray.sumOf(selector: (UInt) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfInt")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun ULongArray.sumOf(selector: (ULong) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfInt")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun UByteArray.sumOf(selector: (UByte) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfInt")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun UShortArray.sumOf(selector: (UShort) -> Int): Int {
    var sum: Int = 0.toInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfLong")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun UIntArray.sumOf(selector: (UInt) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfLong")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun ULongArray.sumOf(selector: (ULong) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}

```

\* Returns the sum of all values produced by [selector] function applied to each element in the array.

```

* Since Kotlin("1.4")
  OptIn(kotlin.experimental.ExperimentalTypeInference::class)
  OverloadResolutionByLambdaReturnType
  Suppress("INAPPLICABLE_JVM_NAME")
  kotlin.jvm.JvmName("sumOfLong")
  ExperimentalUnsignedTypes
  kotlin.internal.InlineOnly
  public inline fun UByteArray.sumOf(selector:

```

```

(Byte) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.4")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfLong")
@ExperimentalUnsignedTypes
kotlin.internal.InlineOnly
public inline fun UShortArray.sumOf(selector: (UShort) -> Long): Long {
    var sum: Long = 0.toLong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfUInt")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun UIntArray.sumOf(selector: (UInt) -> UInt): UInt {
    var sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfUInt")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun ULongArray.sumOf(selector: (ULong) -> UInt): UInt {
    var sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfUInt")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun UByteArray.sumOf(selector: (Byte) -> UInt): UInt {
    var sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfUInt")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun UShortArray.sumOf(selector: (UShort) -> UInt): UInt {
    var sum: UInt = 0.toUInt()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfULong")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun UIntArray.sumOf(selector: (UInt) -> ULong): ULong {
    var sum: ULong = 0.toULong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfULong")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun ULongArray.sumOf(selector: (ULong) -> ULong): ULong {
    var sum: ULong = 0.toULong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/
@SinceKotlin("1.5")
@OptIn(kotlin.experimental.ExperimentalTypeInference::class)
@OverloadResolutionByLambdaReturnType
@Suppress("INAPPLICABLE_JVM_NAME")
kotlin.jvm.JvmName("sumOfULong")
@ExperimentalUnsignedTypes
@WasExperimental(ExperimentalUnsignedTypes::class)
kotlin.internal.InlineOnly
public inline fun ULongArray.sumOf(selector: (ULong) -> ULong): ULong {
    var sum: ULong = 0.toULong()
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
/** Returns the sum of all values produced by [selector] function applied to each element in the array.

*/

```



```

neOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n
*\n\n@SinceKotlin("1.5")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress("INAPPLICABLE_JVM_NAME")\n@kotlin.jvm.JvmName("sumOfULong\
")\n@ExperimentalUnsignedTypes\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.Inli
neOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> ULong): ULong {\n    var sum: ULong =
0.toULong()\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns a
list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out
R>): List<Pair<UInt, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Array<out R>): List<Pair<ULong, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out
R>): List<Pair<UByte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Array<out R>): List<Pair<UShort, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with
the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other:
Iterable<R>): List<Pair<UInt, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Iterable<R>): List<Pair<ULong, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other:
Iterable<R>): List<Pair<UByte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Iterable<R>): List<Pair<UShort, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] collection with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n    val arraySize = size\n    val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other)
{\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n    val arraySize = size\n    val list
= ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n    val arraySize = size\n    val
list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other)
{\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n *
Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

```

Returns a list of pairs built from the elements of `this` array and the [other] array with the same index. The returned list has length of the shortest collection.

```

samples.collections.Iterables.Operations.zipIterable
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray):
List<Pair<UInt, UInt>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index. The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray):
List<Pair<ULong, ULong>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index. The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray):
List<Pair<UByte, UByte>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index. The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray):
List<Pair<UShort, UShort>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built
from the elements of `this` array and the [other] array with the same index\n * using the provided [transform]
function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
ULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest array.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {\n    val size = minOf(size,
other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n
}\n    return list\n}\n\n/**\n * Returns the sum of all elements in the array.\n
*/\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedT
ypes::class)\npublic fun Array<out UInt>.sum(): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum
+= element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n

```

```

*^@kotlin.jvm.JvmName("sumOfULong")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsigned
Types::class)^@npublic fun Array<out ULong>.sum(): ULong {^@n var sum: ULong = 0uL^@n for (element in this)
{^@n sum += element^@n }^@n return sum^@n}^@n/^@n * Returns the sum of all elements in the array.^@n
*^@kotlin.jvm.JvmName("sumOfUByte")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsigned
Types::class)^@npublic fun Array<out UByte>.sum(): UInt {^@n var sum: UInt = 0u^@n for (element in this) {^@n
sum += element^@n }^@n return sum^@n}^@n/^@n * Returns the sum of all elements in the array.^@n
*^@kotlin.jvm.JvmName("sumOfUShort")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsigned
Types::class)^@npublic fun Array<out UShort>.sum(): UInt {^@n var sum: UInt = 0u^@n for (element in this) {^@n
sum += element^@n }^@n return sum^@n}^@n/^@n * Returns the sum of all elements in the array.^@n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^@npublic inline fun
UIntArray.sum(): UInt {^@n return storage.sum().toUInt()^@n}^@n/^@n * Returns the sum of all elements in the
array.^@n *^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^@npublic inline fun
ULongArray.sum(): ULong {^@n return storage.sum().toULong()^@n}^@n/^@n * Returns the sum of all elements in
the array.^@n *^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^@npublic inline
fun UByteArray.sum(): UInt {^@n return sumOf { it.toUInt() }^@n}^@n/^@n * Returns the sum of all elements in the
array.^@n *^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@kotlin.internal.InlineOnly^@npublic inline fun
UShortArray.sum(): UInt {^@n return sumOf { it.toUInt() }^@n}^@n"/^@n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.^@n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.^@n
*^@n^@file:kotlin.jvm.JvmMultifileClass^@file:kotlin.jvm.JvmName("UCollectionsKt")^@n^@npackage
kotlin.collections^@n/^@n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt^@n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib^@n/^@n^@nimport kotlin.random.*^@nimport
kotlin.ranges.contains^@nimport kotlin.ranges.reversed^@n/^@n/^@n * Returns an array of UByte containing all of the
elements of this collection.^@n *^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@npublic fun
Collection<UByte>.toUByteArray(): UByteArray {^@n val result = UByteArray(size)^@n var index = 0^@n for
(element in this)^@n result[index++] = element^@n return result^@n}^@n/^@n * Returns an array of UInt containing
all of the elements of this collection.^@n *^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@npublic fun
Collection<UInt>.toUIntArray(): UIntArray {^@n val result = UIntArray(size)^@n var index = 0^@n for (element in
this)^@n result[index++] = element^@n return result^@n}^@n/^@n * Returns an array of ULong containing all of the
elements of this collection.^@n *^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@npublic fun
Collection<ULong>.toULongArray(): ULongArray {^@n val result = ULongArray(size)^@n var index = 0^@n for
(element in this)^@n result[index++] = element^@n return result^@n}^@n/^@n * Returns an array of UShort
containing all of the elements of this collection.^@n
*^@SinceKotlin("1.3")^@ExperimentalUnsignedTypes^@npublic fun Collection<UShort>.toUShortArray():
UShortArray {^@n val result = UShortArray(size)^@n var index = 0^@n for (element in this)^@n result[index++] =
element^@n return result^@n}^@n/^@n * Returns the sum of all elements in the collection.^@n
*^@kotlin.jvm.JvmName("sumOfUInt")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsignedT
ypes::class)^@npublic fun Iterable<UInt>.sum(): UInt {^@n var sum: UInt = 0u^@n for (element in this) {^@n sum
+= element^@n }^@n return sum^@n}^@n/^@n * Returns the sum of all elements in the collection.^@n
*^@kotlin.jvm.JvmName("sumOfULong")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsigned
Types::class)^@npublic fun Iterable<ULong>.sum(): ULong {^@n var sum: ULong = 0uL^@n for (element in this) {^@n
sum += element^@n }^@n return sum^@n}^@n/^@n * Returns the sum of all elements in the collection.^@n
*^@kotlin.jvm.JvmName("sumOfUByte")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsigned
Types::class)^@npublic fun Iterable<UByte>.sum(): UInt {^@n var sum: UInt = 0u^@n for (element in this) {^@n
sum += element^@n }^@n return sum^@n}^@n/^@n * Returns the sum of all elements in the collection.^@n
*^@kotlin.jvm.JvmName("sumOfUShort")^@SinceKotlin("1.5")^@WasExperimental(ExperimentalUnsigned
Types::class)^@npublic fun Iterable<UShort>.sum(): UInt {^@n var sum: UInt = 0u^@n for (element in this) {^@n
sum += element^@n }^@n return sum^@n}^@n"/^@n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming

```

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```
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UComparisonsKt")\n\npackage\nkotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:\nhttps://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n * Returns the\ngreater of two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UInt, b:\nUInt): UInt {\n    return if (a >= b) a else b\n}\n\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: ULong,\nb: ULong): ULong {\n    return if (a >= b) a else b\n}\n\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UByte,\nb: UByte): UByte {\n    return if (a >= b) a else b\n}\n\n * Returns the greater of two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun maxOf(a: UShort,\nb: UShort): UShort {\n    return if (a >= b) a else b\n}\n\n * Returns the greater of three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UInt, b: UInt, c: UInt): UInt {\n    return maxOf(a, maxOf(b, c))\n}\n\n * Returns\nthe greater of three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: ULong, b: ULong, c: ULong): ULong {\n    return maxOf(a, maxOf(b, c))\n}\n\n * Returns\nthe greater of three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UByte, b: UByte, c: UByte): UByte {\n    return maxOf(a, maxOf(b, c))\n}\n\n * Returns\nthe greater of three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UShort, b: UShort, c: UShort): UShort {\n    return maxOf(a, maxOf(b, c))\n}\n\n * Returns\nthe greater of the given values.\n\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun\nmaxOf(a: UInt, vararg other: UInt): UInt {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return\nmax\n}\n\n * Returns the greater of the given values.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, vararg other: ULong):\nULong {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n * Returns the greater\nof the given values.\n\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte,\nvararg other: UByte): UByte {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n * Returns the greater\nof the given values.\n\n *\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun\nmaxOf(a: UShort, vararg other: UShort): UShort {\n    var max = a\n    for (e in other) max = maxOf(max, e)\n    return max\n}\n\n * Returns the smaller\nof two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UInt, b:\nUInt): UInt {\n    return if (a <= b) a else b\n}\n\n * Returns the smaller\nof two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: ULong,\nb: ULong): ULong {\n    return if (a <= b) a else b\n}\n\n * Returns the smaller\nof two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UByte,\nb: UByte): UByte {\n    return if (a <= b) a else b\n}\n\n * Returns the smaller\nof two values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun minOf(a: UShort,\nb: UShort): UShort {\n    return if (a <= b) a else b\n}\n\n * Returns the smaller\nof three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UInt, b: UInt, c: UInt): UInt {\n    return minOf(a, minOf(b, c))\n}\n\n * Returns\nthe smaller of three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: ULong, b: ULong, c: ULong): ULong {\n    return minOf(a, minOf(b, c))\n}\n\n * Returns\nthe smaller of three values.\n
```

Returns the smaller of three values.\n

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UByte, b: UByte, c: UByte): UByte {\n    return minOf(a, minOf(b, c))\n}\n\n/*\n * Returns the smaller of three values.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UShort, b: UShort, c: UShort): UShort {\n    return minOf(a, minOf(b, c))\n}\n\n/*\n * Returns the smaller of the given values.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun\nminOf(a: UInt, vararg other: UInt): UInt {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return\n    min\n}\n\n/*\n * Returns the smaller of the given values.\n
```

```
*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, vararg other: ULong):\n    ULong {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/*\n * Returns the smaller\nof the given values.\n\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte,\n    vararg other: UByte): UByte {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n/*\n * Returns the smaller of the given values.\n\n*\n@SinceKotlin("1.4")\n@ExperimentalUnsignedTypes\npublic fun\nminOf(a: UShort, vararg other: UShort): UShort {\n    var min = a\n    for (e in other) min = minOf(min, e)\n    return min\n}\n\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
```

```
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("URangesKt")\n\npackage\nkotlin.ranges\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:\nhttps://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n * Returns a\nrandom element from this range.\n\n * \n * @throws IllegalArgumentException if this range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UIntRange.random(): UInt {\n    return random(Random)\n}\n\n/*\n * Returns a random element\nfrom this range.\n\n * \n * @throws IllegalArgumentException if this range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange.random(): ULong {\n    return random(Random)\n}\n\n/*\n * Returns a random\nelement from this range using the specified source of randomness.\n\n * \n * @throws IllegalArgumentException if\nthis range is empty.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic\nfun UIntRange.random(random: Random): UInt {\n    try {\n        return random.nextUInt(this)\n    } catch(e:\n        IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/*\n * Returns a\nrandom element from this range using the specified source of randomness.\n\n * \n * @throws\nIllegalArgumentException if this range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun\n    ULongRange.random(random: Random): ULong {\n    try {\n        return random.nextULong(this)\n    } catch(e:\n        IllegalArgumentException) {\n        throw NoSuchElementException(e.message)\n    }\n}\n\n/*\n * Returns a\nrandom element from this range, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,\n    ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UIntRange.randomOrNull():\n    UInt? {\n    return randomOrNull(Random)\n}\n\n/*\n * Returns a random element from this range, or `null` if this\nrange is empty.\n\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,\n    ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange.randomOrNull():\n    ULong? {\n    return randomOrNull(Random)\n}\n\n/*\n * Returns a random element from this range using the\nspecified source of randomness, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,\n    ExperimentalUnsignedTypes::class)\npublic fun UIntRange.randomOrNull(random: Random): UInt? {\n    if\n        (isEmpty())\n        return null\n    return random.nextUInt(this)\n}\n\n/*\n * Returns a random element from this\nrange using the specified source of randomness, or `null` if this range is empty.\n
```

```
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class,
```

```

ExperimentalUnsignedTypes::class)\npublic fun ULongRange.randomOrNull(random: Random): ULong? {\n  if
(isEmpty())\n    return null\n    return random.nextULong(this)\n}\n\n/**\n * Returns `true` if this range contains
the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@\n@kotlin.internal.InlineOnly\n
npublic inline operator fun UIntRange.contains(element: UInt?): Boolean {\n  return element != null &&
contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns
`false` if the [element] is `null`.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@\n@kotlin.internal.InlineOnly\n
npublic inline operator fun ULongRange.contains(element: ULong?): Boolean {\n  return element != null &&
contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UByte): Boolean {\n  return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UByte): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UInt): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: ULong): Boolean {\n  return (value shr UInt.SIZE_BITS) == 0uL &&
contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
UIntRange.contains(value: UShort): Boolean {\n  return contains(value.toInt())\n}\n\n/**\n * Checks if the
specified [value] belongs to this range.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic operator fun
ULongRange.contains(value: UShort): Boolean {\n  return contains(value.toULong())\n}\n\n/**\n * Returns a
progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less
than or equal to `this` value.\n * \n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.downTo(to: UByte): UIntProgression {\n  return UIntProgression.fromClosedRange(this.toInt(),
to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -
1.\n * \n * The [to] value should be less than or equal to `this` value.\n * \n * If the [to] value is greater than `this`
value the returned progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UInt.downTo(to: UInt): UIntProgression {\n  return UIntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n *
Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should
be less than or equal to `this` value.\n * \n * If the [to] value is greater than `this` value the returned progression is
empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.downTo(to: ULong): ULongProgression {\n  return ULongProgression.fromClosedRange(this, to, -
1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n *
The [to] value should be less than or equal to `this` value.\n * \n * If the [to] value is greater than `this` value the
returned progression is empty.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.downTo(to: UShort): UIntProgression {\n  return UIntProgression.fromClosedRange(this.toInt(),
to.toInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the
same step.\n
*\n@\n@SinceKotlin("1.5")\n@\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UIntProgression.reversed(): UIntProgression {\n  return UIntProgression.fromClosedRange(last, first, -

```

```

step)\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same
step.\n */\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULongProgression.reversed(): ULongProgression {\n    return ULongProgression.fromClosedRange(last, first, -
step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UIntProgression.step(step: Int): UIntProgression {\n    checkStepIsPositive(step > 0, step)\n    return
UIntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression
that goes over the same range with the given step.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULongProgression.step(step: Long): ULongProgression {\n    checkStepIsPositive(step > 0, step)\n    return
ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a range from
this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value,
then the returned range is empty.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UByte.until(to: UByte): UIntRange {\n    if (to <= UByte.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun UInt.until(to:
UInt): UIntRange {\n    if (to <= UInt.MIN_VALUE) return UIntRange.EMPTY\n    return this .. (to -
1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the
[to] value is less than or equal to `this` value, then the returned range is empty.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
ULong.until(to: ULong): ULongRange {\n    if (to <= ULong.MIN_VALUE) return ULongRange.EMPTY\n
return this .. (to - 1u).toULong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic infix fun
UShort.until(to: UShort): UIntRange {\n    if (to <= UShort.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Ensures that this value is not less than the specified
[minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the
[minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceAtLeast(minimumValue: UInt): UInt {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtLeast(minimumValue: ULong): ULong {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceAtLeast(minimumValue: UByte): UByte {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value
if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceAtLeast(minimumValue: UShort): UShort {\n    return if (this < minimumValue) minimumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this

```



```

value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceAtMost(maximumValue: UInt): UInt {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceAtMost(maximumValue: ULong): ULong {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceAtMost(maximumValue: UByte): UByte {\n    return if (this > maximumValue) maximumValue else
this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this
value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UShort.coerceAtMost(maximumValue: UShort): UShort {\n    return if (this > maximumValue) maximumValue
else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n
* @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UInt.coerceIn(minimumValue: UInt, maximumValue: UInt): UInt {\n    if (minimumValue > maximumValue)
throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this
value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n *
@sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.coerceIn(minimumValue: ULong, maximumValue: ULong): ULong {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
UByte.coerceIn(minimumValue: UByte, maximumValue: UByte): UByte {\n    if (minimumValue >
maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
$maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n
if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the
specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or
[minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun

```

```

UShort.coerceIn(minimumValue: UShort, maximumValue: UShort): UShort {
    if (minimumValue >
        maximumValue) throw IllegalArgumentException("Cannot coerce value to an empty range: maximum
        $maximumValue is less than minimum $minimumValue.")
    if (this < minimumValue) return minimumValue
    if (this > maximumValue) return maximumValue
    return this
}

/** Ensures that this value lies in the
    specified [range].
    * @return this value if it's in the [range], or `range.start` if this value is less than
    `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.
    * @sample
    samples.comparisons.ComparableOps.coerceInUnsigned

*/
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun
UInt.coerceIn(range: ClosedRange<UInt>): UInt {
    if (range is ClosedFloatingPointRange) {
        return
        this.coerceIn<UInt>(range)
    }
    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to
    an empty range: $range.")
    return when {
        this < range.start -> range.start
        this > range.endInclusive -
        > range.endInclusive
        else -> this
    }
}

/** Ensures that this value lies in the specified [range].
    * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or
    `range.endInclusive` if this value is greater than `range.endInclusive`.
    * @sample
    samples.comparisons.ComparableOps.coerceInUnsigned

*/
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun
ULong.coerceIn(range: ClosedRange<ULong>): ULong {
    if (range is ClosedFloatingPointRange) {
        return
        this.coerceIn<ULong>(range)
    }
    if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value
    to an empty range: $range.")
    return when {
        this < range.start -> range.start
        this >
        range.endInclusive -> range.endInclusive
        else -> this
    }
}

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    license that can be found in the license/LICENSE.txt file.

*/
@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("USequencesKt")
package
kotlin.sequences

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See:
// https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
// import kotlin.random.*

/** Returns the
    sum of all elements in the sequence.
    * @return The operation is _terminal_.

*/
@kotlin.jvm.JvmName("sumOfUInt")
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedT
ypes::class)
public fun Sequence<UInt>.sum(): UInt {
    var sum: UInt = 0u
    for (element in this) {
        sum
        += element
    }
    return sum
}

/** Returns the sum of all elements in the sequence.
    * @return The
    operation is _terminal_.

*/
@kotlin.jvm.JvmName("sumOfULong")
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsigned
Types::class)
public fun Sequence<ULong>.sum(): ULong {
    var sum: ULong = 0uL
    for (element in this) {
        sum
        += element
    }
    return sum
}

/** Returns the sum of all elements in the sequence.
    * @return *
    The operation is _terminal_.

*/
@kotlin.jvm.JvmName("sumOfUByte")
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsigned
Types::class)
public fun Sequence<UByte>.sum(): UInt {
    var sum: UInt = 0u
    for (element in this) {
        sum
        += element
    }
    return sum
}

/** Returns the sum of all elements in the sequence.
    * @return *
    The
    operation is _terminal_.

*/
@kotlin.jvm.JvmName("sumOfUShort")
@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsigned
Types::class)
public fun Sequence<UShort>.sum(): UInt {
    var sum: UInt = 0u
    for (element in this) {
        sum
        += element
    }
    return sum
}

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    Language contributors.
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    license/LICENSE.txt file.

*/
package kotlin
public expect open class Error : Throwable {
    constructor()
    constructor(message: String?)
    constructor(message: String?, cause: Throwable?)
    constructor(cause: Throwable?)
}
public expect open class Exception : Throwable {
    constructor()
    constructor(message: String?)
    constructor(message: String?, cause: Throwable?)
    constructor(cause:
    Throwable?)
}
public expect open class RuntimeException : Exception {
    constructor()
    constructor(message: String?)
    constructor(message: String?, cause: Throwable?)
    constructor(cause:

```

```

Throwable?)\n}\n\npublic expect open class IllegalArgumentException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalStateException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\npublic expect open class IndexOutOfBoundsException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\npublic expect open class ConcurrentModificationException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  @Deprecated("The constructor is not supported on all platforms and will be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\n  constructor(message: String?, cause: Throwable?)\n  @Deprecated("The constructor is not supported on all platforms and will be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\n  constructor(cause: Throwable?)\n}\n\npublic expect open class UnsupportedOperationException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\npublic expect open class NumberFormatException : IllegalArgumentException {\n  constructor()\n  constructor(message: String?)\n}\n\npublic expect open class NullPointerException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\npublic expect open class ClassCastException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\npublic expect open class AssertionError : Error {\n  constructor()\n  constructor(message: Any?)\n}\n\npublic expect open class NoSuchElementException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\n@SinceKotlin("1.3")\npublic expect open class ArithmeticException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n}\n\n@Deprecated("This exception type is not supposed to be thrown or caught in common code and will be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\npublic expect open class NoWhenBranchMatchedException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\n@Deprecated("This exception type is not supposed to be thrown or caught in common code and will be removed from kotlin-stdlib-common soon.", level = DeprecationLevel.ERROR)\npublic expect class UninitializedPropertyAccessException : RuntimeException {\n  constructor()\n  constructor(message: String?)\n  constructor(message: String?, cause: Throwable?)\n  constructor(cause: Throwable?)\n}\n\n/**\n * Thrown after invocation of a function or property that was expected to return `Nothing`, but returned something instead.\n *\n */\n@SinceKotlin("1.4")\n@PublishedApi\ninternal class KotlinNothingValueException : RuntimeException {\n  constructor() : super()\n  constructor(message: String?) : super(message)\n  constructor(message: String?, cause: Throwable?) : super(message, cause)\n  constructor(cause: Throwable?) : super(cause)\n}\n\n/**\n * Returns the detailed description of this throwable with its stack trace.\n * \n * The detailed description includes:\n * - the short description (see [Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of the exceptions that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed description of each throwable in the [Throwable.cause] chain.\n *\n */\n@SinceKotlin("1.4")\npublic expect fun Throwable.stackTraceToString(): String\n\n/**\n * Prints the [detailed description][Throwable.stackTraceToString] of this throwable to the standard output or standard error output.\n *\n */\n@SinceKotlin("1.4")\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\npublic expect fun Throwable.printStackTrace(): Unit\n\n/**\n * When supported by the platform, adds the specified exception to the list of exceptions that were\n * suppressed in order to deliver this exception.\n *\n */\n@SinceKotlin("1.4")\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\npublic expect fun Throwable.addSuppressed(exception: Throwable)\n\n/**\n * Returns a list of all exceptions that were suppressed in order to deliver this exception.\n * \n * The list can be empty:\n * - if no exceptions were suppressed;\n * - if the platform doesn't support suppressed exceptions;\n * - if this [Throwable] instance has disabled the suppression.\n *\n */\n@SinceKotlin("1.4")\npublic expect val Throwable.suppressedExceptions: List<Throwable>\n\n"}\n\nCopyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage

```

`kotlin.js`\n\nimport kotlin.annotation.AnnotationTarget.\*\n\n/\*\*\n \* Gives a declaration (a function, a property or a class) specific name in JavaScript.\n \* \n\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY\_GETTER, PROPERTY\_SETTER)\n\n@OptionalExpectation\n\npublic expect annotation class JsName(val name: String)\n\n\n/\*\*\n \* Marks experimental JS export annotations.\n \* \n\n \* Note that behavior of these annotations will likely be changed in the future.\n \* \n\n \* Usages of such annotations will be reported as warnings unless an explicit opt-in with\n \* the [OptIn] annotation, e.g. `@OptIn(ExperimentalJsExport::class)`,\n \* or with the `opt-in=kotlin.js.ExperimentalJsExport` compiler option is given.\n \* \n\n@RequiresOptIn(level = RequiresOptIn.Level.WARNING)\n\n@MustBeDocumented\n\n@Retention(AnnotationRetention.BINARY)\n\n@SinceKotlin("1.4")\n\npublic annotation class ExperimentalJsExport\n\n\n/\*\*\n \* Exports top-level declaration on JS platform.\n \* \n\n \* Compiled module exposes declarations that are marked with this annotation without name mangling.\n \* \n\n \* This annotation can be applied to either files or top-level declarations.\n \* \n\n \* It is currently prohibited to export the following kinds of declarations:\n \* \n\n \* \* `expect` declarations\n \* \* inline functions with reified type parameters\n \* \* suspend functions\n \* \* secondary constructors without `@JsName`\n \* \* extension properties\n \* \* enum classes\n \* \* annotation classes\n \* \n\n \* Signatures of exported declarations must only contain "exportable" types:\n \* \n\n \* \* `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`\n \* \* \* `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`\n \* \* \* `Array<exportable-type>`\n \* \* \* Function types with exportable parameters and return types\n \* \* \* `external` or `@JsExport` classes and interfaces\n \* \* \* Nullable counterparts of types above\n \* \* \* Unit return type. Must not be nullable\n \* \n\n \* This annotation is experimental, meaning that restrictions mentioned above are subject to change.\n \* \n\n@ExperimentalJsExport\n\n@Retention(AnnotationRetention.BINARY)\n\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\n\n@SinceKotlin("1.4")\n\n@OptionalExpectation\n\npublic expect annotation class JsExport(),"/\*\*\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \* \n\n@package kotlin.io\n\n\n/\*\* Prints the line separator to the standard output stream. \*\n\npublic expect fun println()\n\n\n/\*\* Prints the given [message] and the line separator to the standard output stream. \*\n\npublic expect fun println(message: Any?)\n\n\n/\*\* Prints the given [message] to the standard output stream. \*\n\npublic expect fun print(message: Any?)\n\n\n/\*\* Reads a line of input from the standard input stream and returns it,\n \* or throws a [RuntimeException] if EOF has already been reached when [readln] is called.\n \* \n\n \* LF or CRLF is treated as the line terminator. Line terminator is not included in the returned string.\n \* \n\n \* Currently this function is not supported in Kotlin/JS and throws [UnsupportedOperationException].\n \* \n\n@SinceKotlin("1.6")\n\npublic expect fun readln(): String\n\n\n/\*\* Reads a line of input from the standard input stream and returns it,\n \* or return `null` if EOF has already been reached when [readlnOrNull] is called.\n \* \n\n \* LF or CRLF is treated as the line terminator. Line terminator is not included in the returned string.\n \* \n\n \* Currently this function is not supported in Kotlin/JS and throws [UnsupportedOperationException].\n \* \n\n@SinceKotlin("1.6")\n\npublic expect fun readlnOrNull(): String?\n\n\ninternal class ReadAfterEOFException(message: String?) : RuntimeException(message)\n\n\ninternal expect interface Serializable\n\n","/\*\*\n \* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \* \n\n@package kotlin.collections\n\n\nimport kotlin.internal.PlatformDependent\n\n\n/\*\*\n \* Classes that inherit from this interface can be represented as a sequence of elements that can\n \* be iterated over.\n \* \n\n \* @param T the type of element being iterated over. The iterator is covariant in its element type.\n \* \n\npublic interface Iterable<out T> {\n\n\n /\*\*\n \* Returns an iterator over the elements of this object.\n \* \n\n public operator fun iterator(): Iterator<T>}\n\n\n/\*\*\n \* Classes that inherit from this interface can be represented as a sequence of elements that can\n \* be iterated over and that supports removing elements during iteration.\n \* \n\n \* @param T the type of element being iterated over. The mutable iterator is invariant in its element type.\n \* \n\npublic interface MutableIterable<out T> : Iterable<T> {\n\n\n /\*\*\n \* Returns an iterator over the elements of this sequence that supports removing elements during iteration.\n \* \n\n @Override fun iterator(): MutableIterator<T>}\n\n\n/\*\*\n \* A generic collection of elements. Methods in this interface support only read-only access to the collection;\n \* read/write access is supported through the [MutableCollection] interface.\n \* \n\n \* @param E the type of elements

contained in the collection. The collection is covariant in its element type.

```

public interface Collection<out E> :
    Iterable<E> {
        // Query Operations
        /**
         * Returns the size of the collection.
         */
        public val size:
            Int
        /**
         * Returns `true` if the collection is empty (contains no elements), `false` otherwise.
         */
        public fun isEmpty(): Boolean
        /**
         * Checks if the specified element is contained in this collection.
         */
        public operator fun contains(element: @UnsafeVariance E): Boolean
        override fun iterator():
            Iterator<E>
        // Bulk Operations
        /**
         * Checks if all elements in the specified collection are contained in
         this collection.
         */
        public fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean
    }
}
/**
 * A generic collection of elements that supports adding and removing elements.
 */
@param E the type of
elements contained in the collection. The mutable collection is invariant in its element type.
public interface
MutableCollection<E> : Collection<E>, MutableIterable<E> {
    // Query Operations
    override fun iterator():
        MutableIterator<E>
    // Modification Operations
    /**
     * Adds the specified element to the collection.
     */
    /**
     * @return `true` if the element has been added, `false` if the collection does not support
     duplicates
     */
    /**
     * and
     the element is already contained in the collection.
     */
    public fun add(element: E): Boolean
    /**
     * Removes a single instance of the specified element from this
     */
    /**
     * collection, if it is present.
     */
    /**
     * @return
     `true` if the element has been successfully removed; `false` if it was not present in the
     collection.
     */
    public fun remove(element: E): Boolean
    // Bulk Modification Operations
    /**
     * Adds all of the elements of
     the specified collection to this collection.
     */
    /**
     * @return `true` if any of the specified elements was added to
     the collection, `false` if the collection was not modified.
     */
    public fun addAll(elements: Collection<E>):
        Boolean
    /**
     * Removes all of this collection's elements that are also contained in the specified
     collection.
     */
    /**
     * @return `true` if any of the specified elements was removed from the collection, `false` if
     the collection was not modified.
     */
    public fun removeAll(elements: Collection<E>): Boolean
    /**
     * Retains only the elements in this collection that are contained in the specified
     collection.
     */
    /**
     * @return
     `true` if any element was removed from the collection, `false` if the collection was not
     modified.
     */
    public fun retainAll(elements: Collection<E>): Boolean
    /**
     * Removes all elements from this collection.
     */
    public fun clear(): Unit
}
/**
 * A generic ordered collection of elements. Methods in this interface
 support only read-only access to the list;
 */
/**
 * read/write access is supported through the [MutableList] interface.
 */
@param E the type of elements contained in the list. The list is covariant in its element type.
public interface
List<out E> : Collection<E> {
    // Query Operations
    override val size: Int
    override fun isEmpty():
        Boolean
    override fun contains(element: @UnsafeVariance E): Boolean
    override fun iterator():
        Iterator<E>
    // Bulk Operations
    override fun containsAll(elements: Collection<@UnsafeVariance E>):
        Boolean
    // Positional Access Operations
    /**
     * Returns the element at the specified index in the list.
     */
    public operator fun get(index: Int): E
    // Search Operations
    /**
     * Returns the index of the first
     occurrence of the specified element in the list, or -1 if the specified
     */
    /**
     * element is not contained in the list.
     */
    public fun indexOf(element: @UnsafeVariance E): Int
    /**
     * Returns the index of the last
     occurrence of the specified element in the list, or -1 if the specified
     */
    /**
     * element is not contained in the list.
     */
    public fun lastIndexOf(element: @UnsafeVariance E): Int
    // List Iterators
    /**
     * Returns a list
     iterator over the elements in this list (in proper sequence).
     */
    public fun listIterator(): ListIterator<E>
    /**
     * Returns a list iterator over the elements in this list (in proper sequence), starting at
     the specified [index].
     */
    public fun listIterator(index: Int): ListIterator<E>
    // View
    /**
     * Returns a view of the portion
     of this list between the specified [fromIndex] (inclusive) and [toIndex] (exclusive).
     */
    /**
     * The returned list is backed
     by this list, so non-structural changes in the returned list are reflected in this list,
     and vice-versa.
     */
    /**
     *
     Structural changes in the base list make the behavior of the view undefined.
     */
    public fun
        subList(fromIndex: Int, toIndex: Int): List<E>
}
/**
 * A generic ordered collection of elements that supports
 adding and removing elements.
 */
@param E the type of elements contained in the list. The mutable list is invariant
in its element type.
public interface MutableList<E> : List<E>, MutableCollection<E> {
    // Modification
    Operations
    /**
     * Adds the specified element to the end of this list.
     */
    /**
     * @return `true` because the
     list is always modified as the result of this operation.
     */
    override fun add(element: E): Boolean
    override fun remove(element: E): Boolean
    // Bulk Modification Operations
    /**
     * Adds all of the

```

elements of the specified collection to the end of this list.  
 \* The elements are appended in the order they appear in the [elements] collection.  
 \* @return `true` if the list was changed as the result of the operation.  
 override fun addAll(elements: Collection<E>): Boolean  
 /\*\* Inserts all of the elements of the specified collection [elements] into this list at the specified [index].  
 \* @return `true` if the list was changed as the result of the operation.  
 public fun addAll(index: Int, elements: Collection<E>): Boolean  
 override fun removeAll(elements: Collection<E>): Boolean  
 override fun retainAll(elements: Collection<E>): Boolean  
 override fun clear(): Unit  
 // Positional Access Operations  
 /\*\* Replaces the element at the specified position in this list with the specified element.  
 \* @return the element previously at the specified position.  
 public operator fun set(index: Int, element: E): E  
 /\*\* Inserts an element into the list at the specified [index].  
 public fun add(index: Int, element: E): Unit  
 /\*\* Removes an element at the specified [index] from the list.  
 \* @return the element that has been removed.  
 public fun removeAt(index: Int): E  
 // List Iterators  
 override fun listIterator(): MutableListIterator<E>  
 override fun listIterator(index: Int): MutableListIterator<E>  
 // View  
 override fun subList(fromIndex: Int, toIndex: Int): MutableList<E>  
 /\*\* A generic unordered collection of elements that does not support duplicate elements.  
 \* Methods in this interface support only read-only access to the set;  
 read/write access is supported through the [MutableSet] interface.  
 \* @param E the type of elements contained in the set. The set is covariant in its element type.  
 public interface Set<out E> : Collection<E> {  
 // Query Operations  
 override val size: Int  
 override fun isEmpty(): Boolean  
 override fun contains(element: @UnsafeVariance E): Boolean  
 override fun iterator(): Iterator<E>  
 // Bulk Operations  
 override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean  
 /\*\* A generic unordered collection of elements that does not support duplicate elements, and supports adding and removing elements.  
 \* @param E the type of elements contained in the set. The mutable set is invariant in its element type.  
 public interface MutableSet<E> : Set<E>, MutableCollection<E> {  
 // Query Operations  
 override fun iterator(): MutableIterator<E>  
 // Modification Operations  
 /\*\* Adds the specified element to the set.  
 \* @return `true` if the element has been added, `false` if the element is already contained in the set.  
 override fun add(element: E): Boolean  
 override fun remove(element: E): Boolean  
 // Bulk Modification Operations  
 override fun addAll(elements: Collection<E>): Boolean  
 override fun removeAll(elements: Collection<E>): Boolean  
 override fun retainAll(elements: Collection<E>): Boolean  
 override fun clear(): Unit  
 /\*\* A collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one value for each key.  
 \* Methods in this interface support only read-only access to the map; read-write access is supported through the [MutableMap] interface.  
 \* @param K the type of map keys. The map is invariant in its key type, as it can accept key as a parameter (of [containsKey] for example) and return it in [keys] set.  
 \* @param V the type of map values. The map is covariant in its value type.  
 public interface Map<K, out V> {  
 // Query Operations  
 /\*\* Returns the number of key/value pairs in the map.  
 public val size: Int  
 /\*\* Returns `true` if the map is empty (contains no elements), `false` otherwise.  
 public fun isEmpty(): Boolean  
 /\*\* Returns `true` if the map contains the specified [key].  
 public fun containsKey(key: K): Boolean  
 /\*\* Returns `true` if the map maps one or more keys to the specified [value].  
 public fun containsValue(value: @UnsafeVariance V): Boolean  
 /\*\* Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.  
 public operator fun get(key: K): V?  
 /\*\* Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map.  
 \* @since JDK 1.8  
 @SinceKotlin("1.1")  
 @PlatformDependent  
 public fun getOrDefault(key: K, defaultValue: @UnsafeVariance V): V {  
 // See default implementation in JDK sources  
 throw NotImplementedError()  
 }  
 // Views  
 /\*\* Returns a read-only [Set] of all keys in this map.  
 public val keys: Set<K>  
 /\*\* Returns a read-only [Collection] of all values in this map. Note that this collection may contain duplicate values.  
 public val values: Collection<V>  
 /\*\* Returns a read-only [Set] of all key/value pairs in this map.  
 public val entries: Set<Map.Entry<K, V>>  
 /\*\* Represents a key/value pair held by a [Map].  
 public interface Entry<out K, out V>

```

{\n    /**\n        * Returns the key of this key/value pair.\n        */\n        public val key: K\n    }\n    /**\n        * Returns the value of this key/value pair.\n        */\n        public val value: V\n    }\n}\n\n/**\n * A modifiable collection that holds pairs of objects (keys and values) and supports efficiently retrieving\n * the value corresponding to each key. Map keys are unique; the map holds only one value for each key.\n * @param K the type of map keys. The map is invariant in its key type.\n * @param V the type of map values. The mutable map is invariant in its value type.\n */\npublic interface MutableMap<K, V> : Map<K, V> {\n    // Modification Operations\n    /**\n        * Associates the specified [value] with the specified [key] in the map.\n        */\n        @return the previous value associated with the key, or `null` if the key was not present in the map.\n        *\n        public fun put(key: K, value: V): V?\n    }\n    /**\n        * Removes the specified key and its corresponding value from this map.\n        */\n        @return the previous value associated with the key, or `null` if the key was not present in the map.\n        *\n        public fun remove(key: K): V?\n    }\n    /**\n        * Removes the entry for the specified key only if it is mapped to the specified value.\n        */\n        @return true if entry was removed\n        *\n        @SinceKotlin("1.1")\n        @PlatformDependent\n        public fun remove(key: K, value: V): Boolean {\n            // See default implementation in JDK sources\n            return true\n        }\n    }\n    // Bulk Modification Operations\n    /**\n        * Updates this map with key/value pairs from the specified map [from].\n        */\n        public fun putAll(from: Map<out K, V>): Unit\n    }\n    /**\n        * Removes all elements from this map.\n        */\n        public fun clear(): Unit\n    }\n    // Views\n    /**\n        * Returns a [MutableSet] of all keys in this map.\n        */\n        override val keys: MutableSet<K>\n    }\n    /**\n        * Returns a [MutableCollection] of all values in this map. Note that this collection may contain duplicate values.\n        */\n        override val values: MutableCollection<V>\n    }\n    /**\n        * Returns a [MutableSet] of all key/value pairs in this map.\n        */\n        override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n    }\n}\n\n/**\n * Represents a key/value pair held by a [MutableMap].\n */\npublic interface MutableEntry<K, V> : Map.Entry<K, V> {\n    /**\n        * Changes the value associated with the key of this entry.\n        */\n        @return the previous value corresponding to the key.\n        *\n        public fun setValue(newValue: V): V\n    }\n}\n\n"/>\n\n/* Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.collections\n\n/**\n * An iterator over a sequence of values of type `Byte`.\n */\npublic abstract class ByteIterator : Iterator<Byte> {\n    override final fun next() = nextByte()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextByte(): Byte\n}\n\n/**\n * An iterator over a sequence of values of type `Char`.\n */\npublic abstract class CharIterator : Iterator<Char> {\n    override final fun next() = nextChar()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextChar(): Char\n}\n\n/**\n * An iterator over a sequence of values of type `Short`.\n */\npublic abstract class ShortIterator : Iterator<Short> {\n    override final fun next() = nextShort()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextShort(): Short\n}\n\n/**\n * An iterator over a sequence of values of type `Int`.\n */\npublic abstract class IntIterator : Iterator<Int> {\n    override final fun next() = nextInt()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextInt(): Int\n}\n\n/**\n * An iterator over a sequence of values of type `Long`.\n */\npublic abstract class LongIterator : Iterator<Long> {\n    override final fun next() = nextLong()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextLong(): Long\n}\n\n/**\n * An iterator over a sequence of values of type `Float`.\n */\npublic abstract class FloatIterator : Iterator<Float> {\n    override final fun next() = nextFloat()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextFloat(): Float\n}\n\n/**\n * An iterator over a sequence of values of type `Double`.\n */\npublic abstract class DoubleIterator : Iterator<Double> {\n    override final fun next() = nextDouble()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextDouble(): Double\n}\n\n/**\n * An iterator over a sequence of values of type `Boolean`.\n */\npublic abstract class BooleanIterator : Iterator<Boolean> {\n    override final fun next() = nextBoolean()\n}\n\n/**\n * Returns the next value in the sequence without boxing.\n */\npublic abstract fun nextBoolean(): Boolean\n}\n}\n\n"/>\n\n/* Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n/**\n * An iterator over a progression of values of type `Char`.\n */\n * @property

```

```

step the number by which the value is incremented on each step.\n */\ninternal class CharProgressionIterator(first:
Char, last: Char, val step: Int) : CharIterator() {\n    private val finalElement: Int = last.code\n    private var hasNext:
Boolean = if (step > 0) first <= last else first >= last\n    private var next: Int = if (hasNext) first.code else
finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n    override fun nextChar(): Char {\n        val value
= next\n        if (value == finalElement) {\n            if (!hasNext) throw kotlin.NoSuchElementException()\n
hasNext = false\n        }\n        else {\n            next += step\n        }\n        return value.toChar()\n    }\n}\n\n/**\n *
An iterator over a progression of values of type `Int`.\n * @property step the number by which the value is
incremented on each step.\n */\ninternal class IntProgressionIterator(first: Int, last: Int, val step: Int) : IntIterator()
{\n    private val finalElement: Int = last\n    private var hasNext: Boolean = if (step > 0) first <= last else first >=
last\n    private var next: Int = if (hasNext) first else finalElement\n\n    override fun hasNext(): Boolean =
hasNext\n\n    override fun nextInt(): Int {\n        val value = next\n        if (value == finalElement) {\n            if
(!hasNext) throw kotlin.NoSuchElementException()\n            hasNext = false\n        }\n        else {\n            next +=
step\n        }\n        return value\n    }\n}\n\n/**\n * An iterator over a progression of values of type `Long`.\n *
@property step the number by which the value is incremented on each step.\n */\ninternal class
LongProgressionIterator(first: Long, last: Long, val step: Long) : LongIterator() {\n    private val finalElement: Long
= last\n    private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n    private var next: Long = if
(hasNext) first else finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n    override fun nextLong():
Long {\n        val value = next\n        if (value == finalElement) {\n            if (!hasNext) throw
kotlin.NoSuchElementException()\n            hasNext = false\n        }\n        else {\n            next += step\n        }\n
return value\n    }\n}\n\n"/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.getProgressionLastElement\n\n/**\n * A progression of values of type `Char`.\n */\npublic open class
CharProgression\n    internal constructor\n        (\n            start: Char,\n            endInclusive: Char,\n            step: Int\n        ) : Iterable<Char> {\n    init {\n        if (step == 0) throw kotlin.IllegalArgumentException("\u0027Step must be non-
zero.\u0027")\n        if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("\u0027Step must be greater than
Int.MIN_VALUE to avoid overflow on negation.\u0027")\n    }\n\n    /**\n     * The first element in the progression.\n     */\n    public val first: Char = start\n\n    /**\n     * The last element in the progression.\n     */\n    public val last:
Char = getProgressionLastElement(start.code, endInclusive.code, step).toChar()\n\n    /**\n     * The step of the
progression.\n     */\n    public val step: Int = step\n\n    override fun iterator(): CharIterator =
CharProgressionIterator(first, last, step)\n\n    /**\n     * Checks if the progression is empty.\n     */\n    * Progression
with a positive step is empty if its first element is greater than the last element.\n     * Progression with a negative
step is empty if its first element is less than the last element.\n     */\n    public open fun isEmpty(): Boolean = if
(step > 0) first > last else first < last\n\n    override fun equals(other: Any?): Boolean =\n        other is
CharProgression && (isEmpty() && other.isEmpty()) ||\n            first == other.first && last == other.last && step ==
other.step\n\n    override fun hashCode(): Int =\n        if (isEmpty()) -1 else (31 * (31 * first.code + last.code) +
step)\n\n    override fun toString(): String = if (step > 0) "\u0024first..\u0024last step \u0024step" else "\u0024first downTo \u0024last step $\u0024-
step"\n\n    companion object {\n        /**\n         * Creates CharProgression within the specified bounds of a
closed range.\n         */\n        * The progression starts with the [rangeStart] value and goes toward the [rangeEnd]
value not excluding it, with the specified [step].\n         * In order to go backwards the [step] must be negative.\n         */\n        * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n         */\n        public fun
fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression = CharProgression(rangeStart,
rangeEnd, step)\n    }\n}\n\n/**\n * A progression of values of type `Int`.\n */\npublic open class IntProgression\n    internal constructor\n        (\n            start: Int,\n            endInclusive: Int,\n            step: Int\n        ) : Iterable<Int> {\n    init {\n        if (step == 0) throw kotlin.IllegalArgumentException("\u0027Step must be non-zero.\u0027")\n        if (step ==
Int.MIN_VALUE) throw kotlin.IllegalArgumentException("\u0027Step must be greater than Int.MIN_VALUE to avoid
overflow on negation.\u0027")\n    }\n\n    /**\n     * The first element in the progression.\n     */\n    public val first: Int =
start\n\n    /**\n     * The last element in the progression.\n     */\n    public val last: Int =

```





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```

package
kotlin
 * The type with only one value: the `Unit` object. This type corresponds to the `void` type in Java.
 * public object Unit {
    override fun toString() = "kotlin.Unit"
 * Copyright 2010-2015 JetBrains
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 * Licensed under the Apache License, Version 2.0 (the "License");
 * you may not use this file except
in compliance with the License.
 * You may obtain a copy of the License at
http://www.apache.org/licenses/LICENSE-2.0
 * Unless required by applicable law or agreed to in writing,
software
 * distributed under the License is distributed on an "AS IS" BASIS,
 * WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied.
 * See the License for the specific language
governing permissions and
 * limitations under the License.
package kotlin.annotation
import
kotlin.annotation.AnnotationTarget
 * Contains the list of code elements which are the possible annotation
targets
 * public enum class AnnotationTarget {
    /** Class, interface or object, annotation class is also
included
    CLASS,
    /** Annotation class only
    ANNOTATION_CLASS,
    /** Generic type
parameter
    TYPE_PARAMETER,
    /** Property
    PROPERTY,
    /** Field, including property's
backing field
    FIELD,
    /** Local variable
    LOCAL_VARIABLE,
    /** Value parameter of a
function or a constructor
    VALUE_PARAMETER,
    /** Constructor only (primary or secondary)
    CONSTRUCTOR,
    /** Function (constructors are not included)
    FUNCTION,
    /** Property getter only
    PROPERTY_GETTER,
    /** Property setter only
    PROPERTY_SETTER,
    /** Type usage
    TYPE,
    /** Any expression
    EXPRESSION,
    /** File
    FILE,
    /** Type alias
    @SinceKotlin("1.1")
    TYPEALIAS
 * Contains the list of possible annotation's retentions.
 * Determines how an annotation is stored in binary output.
 * public enum class AnnotationRetention {
    /**
Annotation isn't stored in binary output
    SOURCE,
    /** Annotation is stored in binary output, but invisible
for reflection
    BINARY,
    /** Annotation is stored in binary output and visible for reflection (default
retention)
    RUNTIME
 * This meta-annotation indicates the kinds of code elements which are
possible targets of an annotation.
 * If the target meta-annotation is not present on an annotation declaration,
the annotation is applicable to the following elements: [CLASS], [PROPERTY], [FIELD],
[LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR], [FUNCTION], [PROPERTY_GETTER],
[PROPERTY_SETTER].
 * @property allowedTargets list of allowed annotation targets
 * @Target(AnnotationTarget.ANNOTATION_CLASS)
 * @MustBeDocumented
 * public annotation class
Target(vararg val allowedTargets: AnnotationTarget)
 * This meta-annotation determines whether an
annotation is stored in binary output and visible for reflection. By default, both are true.
 * @property value
necessary annotation retention (RUNTIME, BINARY or SOURCE)
 * @Target(AnnotationTarget.ANNOTATION_CLASS)
 * public annotation class Retention(val value:
AnnotationRetention = AnnotationRetention.RUNTIME)
 * This meta-annotation determines that an
annotation is applicable twice or more on a single code element
 * @Target(AnnotationTarget.ANNOTATION_CLASS)
 * public annotation class Repeatable
 * This
meta-annotation determines that an annotation is a part of public API and therefore should be included in the
generated
 * documentation for the element to which the annotation is applied.
 * @Target(AnnotationTarget.ANNOTATION_CLASS)
 * public annotation class MustBeDocumented
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 * You may obtain a copy of the License at
http://www.apache.org/licenses/LICENSE-2.0
 * Unless required by applicable law or agreed to in writing,
software
 * distributed under the License is distributed on an "AS IS" BASIS,
 * WITHOUT WARRANTIES
OR CONDITIONS OF ANY KIND, either express or implied.
 * See the License for the specific language
governing permissions and
 * limitations under the License.
package kotlin.internal
 * Specifies
that the corresponding type parameter is not used for unsafe operations such as casts or 'is' checks
 * That means
it's completely safe to use generic types as argument for such parameter.
 * @Target(AnnotationTarget.TYPE_PARAMETER)
 * @Retention(AnnotationRetention.BINARY)
 * internal
annotation class PureReifiable
 * Specifies that the corresponding built-in method exists depending on

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platform.\n * Current implementation for JVM looks whether method with same JVM descriptor exists in the
module JDK.\n * For example MutableMap.remove(K, V) available only if corresponding\n * method
'java/util/Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z' is defined in JDK (i.e. for major versions >= 8)\n
*\n@\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation
class PlatformDependent\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a:
Int, b: Int): Int {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b:
Long): Long {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod c\nprivate fun
differenceModulo(a: Int, b: Int, c: Int): Int {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\nprivate fun
differenceModulo(a: Long, b: Long, c: Long): Long {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\n/**\n *
Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in
the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n *
[step].\n * No validation on passed parameters is performed. The given parameters should satisfy the
condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * @param start
first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or
difference of successive elements in the progression\n * @return the final element of the progression\n *
@suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Int, end: Int, step: Int): Int = when
{\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n    step < 0 -> if (start <= end)
end else end + differenceModulo(start, end, -step)\n    else -> throw kotlin.IllegalArgumentException("Step is
zero.")\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the
progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case
of a negative\n * [step].\n * No validation on passed parameters is performed. The given parameters should
satisfy the condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * @param
start first element of the progression\n * @param end ending bound for the progression\n * @param step
increment, or difference of successive elements in the progression\n * @return the final element of the progression\n
*\n * @suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Long, end: Long, step: Long):
Long = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n    step < 0 -> if
(start <= end) end else end + differenceModulo(start, end, -step)\n    else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n@\n@JsName("arrayIterator")\ninternal fun arrayIterator(array:
dynamic, type: String?) = when (type) {\n    null -> {\n        val arr: Array<dynamic> = array\n        object :
Iterator<dynamic> {\n            var index = 0\n            override fun hasNext() = index < arr.size\n            override fun
next() = if (index < arr.size) arr[index++] else throw NoSuchElementException("$index")\n        }\n    }\n    "\"BooleanArray\"" -> booleanArrayIterator(array)\n    "\"ByteArray\"" -> byteArrayIterator(array)\n    "\"ShortArray\"" -
-> shortArrayIterator(array)\n    "\"CharArray\"" -> charArrayIterator(array)\n    "\"IntArray\"" ->
intArrayIterator(array)\n    "\"LongArray\"" -> longArrayIterator(array)\n    "\"FloatArray\"" ->
floatArrayIterator(array)\n    "\"DoubleArray\"" -> doubleArrayIterator(array)\n    else -> throw
IllegalStateException("Unsupported type argument for arrayIterator:
$type")\n}\n\n@\n@JsName("booleanArrayIterator")\ninternal fun booleanArrayIterator(array: BooleanArray) =
object : BooleanIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override fun
nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@\n@JsName("byteArrayIterator")\ninternal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextByte() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@\n@JsName("shortArrayIterator")\ninternal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {\n    var index = 0\n    override fun hasNext() =

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index < array.size\n  override fun nextShort() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("charArrayIterator")\ninternal fun charArrayIterator(array:
CharArray) = object : CharIterator() {\n  var index = 0\n  override fun hasNext() = index < array.size\n  override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("intArrayIterator")\ninternal fun intArrayIterator(array:
IntArray) = object : IntIterator() {\n  var index = 0\n  override fun hasNext() = index < array.size\n  override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("floatArrayIterator")\ninternal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {\n  var index = 0\n  override fun hasNext() = index
< array.size\n  override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("doubleArrayIterator")\ninternal fun
doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n  var index = 0\n  override fun hasNext()
= index < array.size\n  override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("longArrayIterator")\ninternal fun longArrayIterator(array:
LongArray) = object : LongIterator() {\n  var index = 0\n  override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException("$index")\n}\n\n@JsName("PropertyMetadata")\ninternal class
PropertyMetadata(@JsName("callableName") val name:
String)\n\n@JsName("noWhenBranchMatched")\ninternal fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n@JsName("subSequence")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n  if (c is String) {\n    return c.substring(startIndex, endIndex)\n
} else {\n    return c.asDynamic().`subSequence_vux9f0$`(startIndex, endIndex)\n
}\n}\n\n@JsName("captureStack")\ninternal fun captureStack(@Suppress("UNUSED_PARAMETER")
baseClass: JsClass<in Throwable>, instance: Throwable) {\n  if (js("Error").captureStackTrace) {\n    // Using
uncropped stack traces due to KT-37563.\n    // Precise stack traces are implemented in JS IR compiler and
stdlib\n    js("Error").captureStackTrace(instance);\n  } else {\n    instance.asDynamic().stack = js("new
Error()").stack;\n  }\n}\n\n@JsName("newThrowable")\ninternal fun newThrowable(message: String?, cause:
Throwable?): Throwable {\n  val throwable = js("new Error()")\n  throwable.message = if (jsTypeOf(message)
== "undefined") {\n    if (cause != null) cause.toString() else null\n  } else {\n    message\n  }\n
throwable.cause = cause\n  throwable.name = "Throwable"\n  return
throwable\n}\n\n@JsName("BoxedChar")\ninternal class BoxedChar(val c: Int) : Comparable<Int> {\n  override
fun equals(other: Any?): Boolean {\n    return other is BoxedChar && c == other.c\n  }\n\n  override fun
hashCode(): Int {\n    return c\n  }\n\n  override fun toString(): String {\n    return
js("this.c").unsafeCast<Char>().toString()\n  }\n\n  override fun compareTo(other: Int): Int {\n    return
js("this.c - other").unsafeCast<Int>()\n  }\n\n  @JsName("valueOf")\n  public fun valueOf(): Int {\n
return c\n  }\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun <T> concat(args: Array<T>): T {\n  val typed
= js("Array")(args.size)\n  for (i in args.indices) {\n    val arr = args[i]\n    if (arr !is Array<*>) {\n
typed[i] = js("[]").slice.call(arr)\n    } else {\n    typed[i] = arr\n    }\n  }\n  return
js("[]").concat.apply(js("[]"), typed);\n}\n\n/** Concat regular Array's and TypedArray's into an Array.\n
*/\n\n@PublishedApi\n@JsName("arrayConcat")\n@Suppress("UNUSED_PARAMETER")\ninternal fun <T>
arrayConcat(a: T, b: T): T {\n  return concat(js("arguments"))\n}\n\n/** Concat primitive arrays. Main use:
prepare vararg arguments.\n * For compatibility with 1.1.0 the arguments may be a mixture of Array's and
TypedArray's.\n * If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray)
returns a TypedArray, otherwise an Array.\n * If the first argument has the $type$ property (Boolean-, Char-, and
LongArray) copy its value to result.$type$.\n * If the first argument is a regular Array without the $type$ property
default to arrayConcat.\n
*/\n\n@PublishedApi\n@JsName("primitiveArrayConcat")\n@Suppress("UNUSED_PARAMETER")\ninternal
fun <T> primitiveArrayConcat(a: T, b: T): T {\n  val args: Array<T> = js("arguments")\n  if (a is Array<*> &&

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a.asDynamic().`$type$` === undefined) {\n    return concat(args)\n  } else {\n    var size = 0\n    for (i in
args.indices) {\n      size += args[i].asDynamic().length as Int\n    }\n    val result = js("new
a.constructor(size)")\n    kotlin.copyArrayType(a, result)\n    size = 0\n    for (i in args.indices) {\n      val
arr = args[i].asDynamic()\n      for (j in 0 until arr.length) {\n        result[size++] = arr[j]\n      }\n    }\n
return result\n  }\n}\n\n@JsName("booleanArrayOf")\ninternal fun booleanArrayOf() =
withType("BooleanArray", js("[].slice.call(arguments)"))\n\n@JsName("charArrayOf") // The arguments have
to be slice'd here because of Rhino (see KT-16974)\ninternal fun charArrayOf() = withType("CharArray", js("new
Uint16Array([].slice.call(arguments)")))\n\n@JsName("longArrayOf")\ninternal fun longArrayOf() =
withType("LongArray",
js("[].slice.call(arguments)"))\n\n@JsName("withType")\n@kotlin.internal.InlineOnly\ninternal inline fun
withType(type: String, array: dynamic): dynamic {\n  array.`$type$` = type\n  return array\n}, /*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n *
Function corresponding to JavaScript's `typeof` operator\n
*\n\n@kotlin.internal.InlineOnly\n@Suppress("UNUSED_PARAMETER")\npublic inline fun jsTypeOf(a: Any?):
String = js("typeof a")\n}, /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n@file:Suppress("UNUSED_PARAMETER",
"NOTHING_TO_INLINE")\n\npackage kotlin\n\n/**\n * Returns an empty array of the specified type [T].\n
*\n\npublic inline fun <T> emptyArray(): Array<T> = js("[]")\n\n@library\npublic fun <T> arrayOf(vararg
elements: T): Array<T> = definedExternally\n\n@library\npublic fun doubleArrayOf(vararg elements: Double):
DoubleArray = definedExternally\n\n@library\npublic fun floatArrayOf(vararg elements: Float): FloatArray =
definedExternally\n\n@library\npublic fun longArrayOf(vararg elements: Long): LongArray =
definedExternally\n\n@library\npublic fun intArrayOf(vararg elements: Int): IntArray =
definedExternally\n\n@library\npublic fun charArrayOf(vararg elements: Char): CharArray =
definedExternally\n\n@library\npublic fun shortArrayOf(vararg elements: Short): ShortArray =
definedExternally\n\n@library\npublic fun byteArrayOf(vararg elements: Byte): ByteArray =
definedExternally\n\n@library\npublic fun booleanArrayOf(vararg elements: Boolean): BooleanArray =
definedExternally\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization function
[initializer].\n *\n\npublic actual fun <T> lazy(initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n *
Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].\n *\n\nThe [mode]
parameter is ignored.\n\npublic actual fun <T> lazy(mode: LazyThreadSafetyMode, initializer: () -> T): Lazy<T> =
UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization
function [initializer].\n *\n\nThe [lock] parameter is ignored.\n\npublic actual fun <T> lazy(lock: Any?,
initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n\ninternal fun fillFrom(src: dynamic, dst: dynamic):
dynamic {\n  val srcLen: Int = src.length\n  val dstLen: Int = dst.length\n  var index: Int = 0\n  while (index <
srcLen && index < dstLen) dst[index] = src[index++]\n  return dst\n}\n\n\ninternal fun arrayCopyResize(source:
dynamic, newSize: Int, defaultValue: Any?): dynamic {\n  val result = source.slice(0, newSize)\n
copyArrayType(source, result)\n  var index: Int = source.length\n  if (newSize > index) {\n    result.length =
newSize\n    while (index < newSize) result[index++] = defaultValue\n  }\n  return result\n}\n\n\ninternal fun
<T> arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic {\n  val result = array.slice()\n
result.length += collection.size\n  copyArrayType(array, result)\n  var index: Int = array.length\n  for (element in
collection) result[index++] = element\n  return result\n}\n\n\ninternal fun <T> fillFromCollection(dst: dynamic,
startIndex: Int, collection: Collection<T>): dynamic {\n  var index = startIndex\n  for (element in collection)
dst[index++] = element\n  return dst\n}\n\n\ninternal inline fun copyArrayType(from: dynamic, to: dynamic) {\n  if
(from.`$type$` !== undefined) {\n    to.`$type$` = from.`$type$`\n  }\n}\n\n\ninternal inline fun jsIsType(obj:
dynamic, jsClass: dynamic) = js("Kotlin").isType(obj, jsClass)", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that

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can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Creates a Char with the specified
[code].\n *\n * @sample samples.text.Chars.charFromCode\n
*/\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
actual inline fun Char(code: UShort): Char {\n    return code.toInt().toChar()\n}\n\n",/*\n * Copyright 2010-2018
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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@SinceKotlin("1.3")\n@JsName("CoroutineImpl")\n\ninternal abstract class CoroutineImpl(private val resultContinuation: Continuation<Any?>) : Continuation<Any?>
{\n    protected var state = 0\n    protected var exceptionState = 0\n    protected var result: Any? = null\n    protected
var exception: Throwable? = null\n    protected var finallyPath: Array<Int>? = null\n\n    public override val context:
CoroutineContext = resultContinuation.context\n\n    private var intercepted_: Continuation<Any?>? = null\n\n    public fun intercepted(): Continuation<Any?> =\n        intercepted_\n        ?:\n    (context[ContinuationInterceptor]?.interceptContinuation(this) ?: this)\n        .also { intercepted_ = it }\n\n    override fun resumeWith(result: Result<Any?>) {\n        var current = this\n        var currentResult: Any? =
result.getOrNull()\n        var currentException: Throwable? = result.exceptionOrNull()\n        // This loop unrolls
recursion in current.resumeWith(param) to make saner and shorter stack traces on resume\n        while (true) {\n
            with(current) {\n                val completion = resultContinuation\n                // Set result and exception fields in
the current continuation\n                if (currentException == null) {\n                    this.result = currentResult\n
                } else {\n                    state = exceptionState\n                    exception = currentException\n                }\n            }\n            try {\n                val outcome = doResume()\n                if (outcome === COROUTINE_SUSPENDED)\n                    return\n                currentResult = outcome\n                currentException = null\n            } catch (exception:
dynamic) { // Catch all exceptions\n                currentResult = null\n                currentException =
exception.unsafeCast<Throwable>()\n            }\n            releaseIntercepted() // this state machine instance is
terminating\n\n            if (completion is CoroutineImpl) {\n                // unrolling recursion via loop\n                current = completion\n            } else {\n                // top-level completion reached -- invoke and return\n                currentException?.let {\n                    completion.resumeWithException(it)\n                } ?:\n                completion.resume(currentResult)\n                return\n            }\n        }\n        }\n        }\n        }\n        }\n        private fun
releaseIntercepted() {\n            val intercepted = intercepted_\n            if (intercepted != null && intercepted !== this) {\n
                context[ContinuationInterceptor]!!.releaseInterceptedContinuation(intercepted)\n            }\n            this.intercepted_
= CompletedContinuation // just in case\n        }\n        protected abstract fun doResume(): Any?\n        }\n        internal object
CompletedContinuation : Continuation<Any?> {\n            override val context: CoroutineContext\n                get() =
error("This continuation is already complete")\n            override fun resumeWith(result: Result<Any?>) {\n
                error("This continuation is already complete")\n            }\n            override fun toString(): String = "This continuation is
already complete"\n        }\n        }\n        /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n@file:Suppress("UNCHECKED_CAST",
"RedundantVisibilityModifier")\n\npackage kotlin\n\nimport kotlin.contracts.*\nimport
kotlin.internal.InlineOnly\nimport kotlin.jvm.JvmField\nimport kotlin.jvm.JvmInline\nimport
kotlin.jvm.JvmName\n\n/**\n * A discriminated union that encapsulates a successful outcome with a value of type
[T]\n * or a failure with an arbitrary [Throwable] exception.\n */\n@SinceKotlin("1.3")\n@JvmInline\npublic
value class Result<out T> @PublishedApi internal constructor(\n    @PublishedApi\n    internal val value: Any?\n) :
Serializable {\n    // discovery\n    /**\n     * Returns `true` if this instance represents a successful outcome.\n     *
In this case [isFailure] returns `false`.\n     */\n    public val isSuccess: Boolean\n        get() = value !is Failure\n    /**\n     * Returns `true` if this instance represents a failed outcome.\n     *
In this case [isSuccess] returns `false`.\n     */\n    public val isFailure: Boolean\n        get() = value is Failure\n\n    // value & exception retrieval\n    /**\n     * Returns the
encapsulated value if this instance represents [success][Result.isSuccess] or `null`\n     * if it is
[failure][Result.isFailure].\n     */\n     * This function is a shorthand for `getOrNull { null }` (see [getOrNull]) or\n
     * `fold(onSuccess = { it }, onFailure = { null })` (see [fold]).\n     */\n    @InlineOnly\n    public inline fun

```

```

getOrNull(): T? =\n    when {\n        isFailure -> null\n        else -> value as T\n    }\n    /**\n     *
Returns the encapsulated [Throwable] exception if this instance represents [failure][isFailure] or `null`\n     * if it is
[success][isSuccess].\n     * This function is a shorthand for `fold(onSuccess = { null }, onFailure = { it })`
(see [fold]).\n     */\n    public fun exceptionOrNull(): Throwable? =\n    when (value) {\n        is Failure ->
value.exception\n        else -> null\n    }\n    /**\n     * Returns a string `Success(v)` if this instance represents
[success][Result.isSuccess]\n     * where `v` is a string representation of the value or a string `Failure(x)` if\n     * it
is [failure][isFailure] where `x` is a string representation of the exception.\n     */\n    public override fun toString():
String =\n    when (value) {\n        is Failure -> value.toString() // "Failure($exception)"
        else ->
"Success($value)"
    }\n    // companion with constructors\n    /**\n     * Companion object for [Result]
class that contains its constructor functions\n     * [success] and [failure].\n     */\n    public companion object {\n
/**\n     * Returns an instance that encapsulates the given [value] as successful value.\n     */\n
@Suppress("INAPPLICABLE_JVM_NAME")\n        @InlineOnly\n        @JvmName("success")\n        public
inline fun <T> success(value: T): Result<T> =\n        Result(value)\n        /**\n         * Returns an instance that
encapsulates the given [Throwable] [exception] as failure.\n         */\n
@Suppress("INAPPLICABLE_JVM_NAME")\n        @InlineOnly\n        @JvmName("failure")\n        public
inline fun <T> failure(exception: Throwable): Result<T> =\n        Result(createFailure(exception))\n    }\n\n    internal class Failure(\n        @JvmField\n        val exception: Throwable\n    ): Serializable {\n        override fun
equals(other: Any?): Boolean = other is Failure && exception == other.exception\n        override fun hashCode():
Int = exception.hashCode()\n        override fun toString(): String = "Failure($exception)"
    }\n    /**\n     *
Creates an instance of internal marker [Result.Failure] class to\n     * make sure that this class is not exposed in ABI.\n     */\n    @PublishedApi\n    @SinceKotlin("1.3")\n    internal fun createFailure(exception: Throwable): Any =\n    Result.Failure(exception)\n    /**\n     * Throws exception if the result is failure. This internal function minimizes\n     *
inlined bytecode for [getOrThrow] and makes sure that in the future we can\n     * add some exception-augmenting
logic here (if needed).\n     */\n    @PublishedApi\n    @SinceKotlin("1.3")\n    internal fun Result<*>.throwOnFailure() {\n
if (value is Result.Failure) throw value.exception\n    }\n    /**\n     * Calls the specified function [block] and returns its
encapsulated result if invocation was successful,\n     * catching any [Throwable] exception that was thrown from the
[block] function execution and encapsulating it as a failure.\n     */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public
inline fun <R> runCatching(block: () -> R): Result<R> {\n        return try {\n            Result.success(block())\n        } catch
(e: Throwable) {\n            Result.failure(e)\n        }\n    }\n    /**\n     * Calls the specified function [block] with `this` value as
its receiver and returns its encapsulated result if invocation was successful,\n     * catching any [Throwable] exception
that was thrown from the [block] function execution and encapsulating it as a failure.\n     */\n
    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <T, R> T.runCatching(block: T.() -> R): Result<R> {\n
return try {\n            Result.success(block())\n        } catch (e: Throwable) {\n            Result.failure(e)\n        }\n    }\n    //
--\n    extensions ---\n    /**\n     * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or
throws the encapsulated [Throwable] exception\n     * if it is [failure][Result.isFailure].\n     */\n     * This function is a
shorthand for `getOrNull { throw it }` (see [getOrNull]).\n     */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline
fun <T> Result<T>.getOrThrow(): T {\n        throwOnFailure()\n        return value as T\n    }\n    /**\n     * Returns the
encapsulated value if this instance represents [success][Result.isSuccess] or the\n     * result of [onFailure] function for
the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n     */\n     * Note, that this function rethrows
any [Throwable] exception thrown by [onFailure] function.\n     */\n     * This function is a shorthand for `fold(onSuccess
= { it }, onFailure = onFailure)` (see [fold]).\n     */\n    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <R, T :
R> Result<T>.getOrNull(onFailure: (exception: Throwable) -> R): R {\n        contract {\n            callsInPlace(onFailure,
InvocationKind.AT_MOST_ONCE)\n        }\n        return when (val exception = exceptionOrNull()) {\n            null ->
value as T\n            else -> onFailure(exception)\n        }\n    }\n    /**\n     * Returns the encapsulated value if this instance
represents [success][Result.isSuccess] or the\n     * [defaultValue] if it is [failure][Result.isFailure].\n     */\n     * This
function is a shorthand for `getOrNull { defaultValue }` (see [getOrNull]).\n     */\n
    @InlineOnly\n    @SinceKotlin("1.3")\n    public inline fun <R, T : R> Result<T>.getOrDefault(defaultValue: R):
R {\n        if (isFailure) return defaultValue\n        return value as T\n    }\n    /**\n     * Returns the result of [onSuccess] for the

```

encapsulated value if this instance represents [success][Result.isSuccess]\n \* or the result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n \* Note, that this function rethrows any [Throwable] exception thrown by [onSuccess] or by [onFailure] function.\n

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.fold(\n    onSuccess: (value: T) -> R,\n    onFailure: (exception: Throwable) -> R)\n: R {\n    contract {\n        callsInPlace(onSuccess,\n            InvocationKind.AT_MOST_ONCE)\n        callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n    }\n    return when (val exception = exceptionOrNull()) {\n        null -> onSuccess(value as T)\n        else -> onFailure(exception)\n    }\n}\n// transformation\n\n**\n * Returns the encapsulated result of the given
```

[transform] function applied to the encapsulated value\n \* if this instance represents [success][Result.isSuccess] or the\n \* original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n \* Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n \* See [mapCatching] for an alternative that encapsulates exceptions.\n

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.map(transform: (value: T) -> R): Result<R> {\n    contract {\n        callsInPlace(transform,\n            InvocationKind.AT_MOST_ONCE)\n    }\n    return when {\n        isSuccess -> Result.success(transform(value as T))\n        else -> Result(value)\n    }\n}\n\n**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n * original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n * This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n * See [map] for an alternative that rethrows exceptions from `transform` function.
```

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {\n    return when {\n        isSuccess -> runCatching { transform(value as T) }\n        else -> Result(value)\n    }\n}\n\n**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is [success][Result.isSuccess].\n * Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n * See [recoverCatching] for an alternative that encapsulates exceptions.\n
```

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recover(transform: (exception: Throwable) -> R): Result<R> {\n    contract {\n        callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n    }\n    return when (val exception = exceptionOrNull()) {\n        null -> this\n        else -> Result.success(transform(exception))\n    }\n}\n\n**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is [success][Result.isSuccess].\n * This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n * See [recover] for an alternative that rethrows exceptions.
```

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recoverCatching(transform: (exception: Throwable) -> R): Result<R> {\n    return when (val exception = exceptionOrNull()) {\n        null -> this\n        else -> runCatching { transform(exception) }\n    }\n}\n\n**\n * Performs the given [action] on the encapsulated [Throwable] exception if this instance represents [failure][Result.isFailure].\n * Returns the original `Result` unchanged.\n
```

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onFailure(action: (exception: Throwable) -> Unit): Result<T> {\n    contract {\n        callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n    }\n    exceptionOrNull()?.let { action(it) }\n    return this\n}\n\n**\n * Performs the given [action] on the encapsulated value if this instance represents [success][Result.isSuccess].\n * Returns the original `Result` unchanged.\n
```

```
*\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onSuccess(action: (value: T) -> Unit): Result<T> {\n    contract {\n        callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n    }\n    if (isSuccess) action(value as T)\n    return this\n}\n\n// -----\n\n**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n**\n * Interface representing a continuation after a suspension point that returns a value of type `T`.\n
```



```

*^@SinceKotlin("1.3")\npublic interface Continuation<in T> {\n    /**\n     * The context of the coroutine that
corresponds to this continuation.\n    */\n    public val context: CoroutineContext\n    /**\n     * Resumes the
execution of the corresponding coroutine passing a successful or failed [result] as the\n    * return value of the last
suspension point.\n    */\n    public fun resumeWith(result: Result<T>)\n}\n\n/**\n * Classes and interfaces marked
with this annotation are restricted when used as receivers for extension\n * `suspend` functions. These `suspend`
extensions can only invoke other member or extension `suspend` functions on this particular\n * receiver and are
restricted from calling arbitrary suspension functions.\n
*^@SinceKotlin("1.3")\n@Target(AnnotationTarget.CLASS)\n@Retention(AnnotationRetention.BINARY)\npu
blic annotation class RestrictsSuspension\n\n/**\n * Resumes the execution of the corresponding coroutine passing
[value] as the return value of the last suspension point.\n */\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline
fun <T> Continuation<T>.resume(value: T): Unit =\n    resumeWith(Result.success(value))\n\n/**\n * Resumes the
execution of the corresponding coroutine so that the [exception] is re-thrown right after the\n * last suspension
point.\n */\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun <T>
Continuation<T>.resumeWithException(exception: Throwable): Unit =\n
resumeWith(Result.failure(exception))\n\n\n/**\n * Creates a [Continuation] instance with the given [context] and
implementation of [resumeWith] method.\n */\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun <T>
Continuation(\n    context: CoroutineContext,\n    crossinline resumeWith: (Result<T>) -> Unit\n): Continuation<T>
=\n    object : Continuation<T> {\n        override val context: CoroutineContext\n            get() = context\n\n
override fun resumeWith(result: Result<T>) =\n                resumeWith(result)\n    }\n\n\n/**\n * Creates a coroutine
without a receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable
computation every time it is invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the
returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a
result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce
an [IllegalStateException].\n */\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T>
(suspend () -> T).createCoroutine(\n    completion: Continuation<T>): Continuation<Unit> =\n
SafeContinuation(createCoroutineUnintercepted(completion).intercepted(), COROUTINE_SUSPENDED)\n\n\n/**\n * Creates a coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh instance of
suspendable computation every time it is invoked.\n * To start executing the created coroutine, invoke
`resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the
coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting
continuation will produce an [IllegalStateException].\n */\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend R.() ->
T).createCoroutine(\n    receiver: R,\n    completion: Continuation<T>): Continuation<Unit> =\n
SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(),
COROUTINE_SUSPENDED)\n\n\n/**\n * Starts a coroutine without a receiver and with result type [T].\n * This
function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The
[completion] continuation is invoked when the coroutine completes with a result or an exception.\n */\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <T> (suspend () ->
T).startCoroutine(\n    completion: Continuation<T>) {\n
createCoroutineUnintercepted(completion).intercepted().resume(Unit)\n}\n\n\n/**\n * Starts a coroutine with receiver
type [R] and result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation
every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or
an exception.\n */\n@SinceKotlin("1.3")\n@Suppress("UNCHECKED_CAST")\npublic fun <R, T> (suspend
R.() -> T).startCoroutine(\n    receiver: R,\n    completion: Continuation<T>)\n {\n
createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit)\n}\n\n\n/**\n * Obtains the current
continuation instance inside suspend functions and suspends\n * the currently running coroutine.\n * In this
function both [Continuation.resume] and [Continuation.resumeWithException] can be used either synchronously
in\n * the same stack-frame where the suspension function is run or asynchronously later in the same thread or\n *

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from a different thread of execution. Subsequent invocation of any resume function will produce an [IllegalStateException].

```

*\n@SinceKotlin("1.3")\n@InlineOnly\npublic suspend inline fun <T>
suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T {\n    contract { callsInPlace(block,
InvocationKind.EXACTLY_ONCE) }\n    return suspendCoroutineUninterceptedOrReturn { c: Continuation<T> -
->\n        val safe = SafeContinuation(c.intercepted())\n        block(safe)\n        safe.getOrThrow()\n    }\n}\n\n/**\n *
Returns the context of the current coroutine.\n
*\n@SinceKotlin("1.3")\n@Suppress("WRONG_MODIFIER_TARGET")\n@InlineOnly\npublic suspend inline
val coroutineContext: CoroutineContext\n    get() {\n        throw NotImplementedError("Implemented as
intrinsic")\n    }\n}\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@npackage kotlin.coroutines.intrinsics\n\nimport kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/**\n *
Starts an unintercepted coroutine without a receiver and with result type [T] and executes it until its first
suspension.\n * Returns the result of the coroutine or throws its exception if it does not suspend or
[Coroutine.SUSPENDED] if it suspends.\n * In the latter case, the [completion] continuation is invoked when
the coroutine completes with a result or an exception.\n * The coroutine is started directly in the invoker's thread
without going through the [ContinuationInterceptor] that might\n * be present in the completion's
[CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation\n * context is established.\n
*\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the
execution of the suspended\n * coroutine using a reference to the suspending function.\n
*\n@SinceKotlin("1.3")\n@InlineOnly\npublic actual inline fun <T> (suspend () ->
T).startCoroutineUninterceptedOrReturn(\n    completion: Continuation<T>)\n): Any? =
this.asDynamic()(completion, false)\n\n/**\n * Starts an unintercepted coroutine with receiver type [R] and result
type [T] and executes it until its first suspension.\n * Returns the result of the coroutine or throws its exception if it
does not suspend or [Coroutine.SUSPENDED] if it suspends.\n * In the latter case, the [completion]
continuation is invoked when the coroutine completes with a result or an exception.\n * The coroutine is started
directly in the invoker's thread without going through the [ContinuationInterceptor] that might\n * be present in the
completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation\n * context is
established.\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn]
to resume the execution of the suspended\n * coroutine using a reference to the suspending function.\n
*\n@SinceKotlin("1.3")\n@InlineOnly\npublic actual inline fun <R, T> (suspend R.() ->
T).startCoroutineUninterceptedOrReturn(\n    receiver: R,\n    completion: Continuation<T>)\n): Any? =
this.asDynamic()(receiver, completion, false)\n\n@InlineOnly\ninternal actual inline fun <R, P, T> (suspend R.(P) -
-> T).startCoroutineUninterceptedOrReturn(\n    receiver: R,\n    param: P,\n    completion: Continuation<T>)\n):
Any? = this.asDynamic()(receiver, param, completion, false)\n\n/**\n * Creates unintercepted coroutine without
receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable computation every
time it is invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned
[Continuation] instance.\n * The [completion] continuation is invoked when coroutine completes with result or
exception.\n * This function returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine
immediately in the invoker's call stack without going through the\n * [ContinuationInterceptor] that might be present
in the completion's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation
context is established.\n * Note that [completion] of this function may get invoked in an arbitrary context.\n *
[Continuation.intercepted] can be used to acquire the intercepted continuation.\n * Invocation of `resume(Unit)` on
intercepted continuation guarantees that execution of\n * both the coroutine and [completion] happens in the
invocation context established by\n * [ContinuationInterceptor].\n * Repeated invocation of any resume function
on the resulting continuation corrupts the\n * state machine of the coroutine and may result in arbitrary behaviour or
exception.\n
*\n@SinceKotlin("1.3")\npublic actual fun <T> (suspend () -> T).createCoroutineUnintercepted(\n
completion: Continuation<T>)\n): Continuation<Unit> =\n    // Kotlin/JS suspend lambdas have an extra parameter
`suspended`\n    if (this.asDynamic().length == 2) {\n        // When `suspended` is true the continuation is created,

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but not executed\n    this.asDynamic()(completion, true)\n    } else {\n
createCoroutineFromSuspendFunction(completion) {\n    this.asDynamic()(completion)\n    }\n }\n\n/**\n
* Creates unintercepted coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh
instance of suspendable computation every time it is invoked.\n *\n * To start executing the created coroutine,
invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when
coroutine completes with result or exception.\n *\n * This function returns unintercepted continuation.\n *
Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the\n *
[ContinuationInterceptor] that might be present in the completion's [CoroutineContext].\n * It is the invoker's
responsibility to ensure that a proper invocation context is established.\n * Note that [completion] of this function
may get invoked in an arbitrary context.\n *\n * [Continuation.intercepted] can be used to acquire the intercepted
continuation.\n * Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of\n * both the
coroutine and [completion] happens in the invocation context established by\n * [ContinuationInterceptor].\n *\n *
Repeated invocation of any resume function on the resulting continuation corrupts the\n * state machine of the
coroutine and may result in arbitrary behaviour or exception.\n */\n\n@SinceKotlin("1.3")\npublic actual fun <R, T>
(suspend R.() -> T).createCoroutineUnintercepted(\n receiver: R,\n completion: Continuation<T>)\n:
Continuation<Unit> =\n // Kotlin/JS suspend lambdas have an extra parameter `suspended`\n if
(this.asDynamic().length == 3) {\n // When `suspended` is true the continuation is created, but not executed\n
this.asDynamic()(receiver, completion, true)\n } else {\n createCoroutineFromSuspendFunction(completion)
{\n this.asDynamic()(receiver, completion)\n }\n }\n\n/**\n
* Intercepts this continuation with [ContinuationInterceptor].\n *\n * This function shall be used on the immediate result of
[createCoroutineUnintercepted] or [suspendCoroutineUninterceptedOrReturn],\n * in which case it checks for
[ContinuationInterceptor] in the continuation's [context][Continuation.context],\n * invokes
[ContinuationInterceptor.interceptContinuation], caches and returns the result.\n *\n * If this function is invoked on
other [Continuation] instances it returns `this` continuation unchanged.\n */\n\n@SinceKotlin("1.3")\npublic actual
fun <T> Continuation<T>.intercepted(): Continuation<T> =\n (this as? CoroutineImpl)?.intercepted() ?:
this\n\n\nprivate inline fun <T> createCoroutineFromSuspendFunction(\n completion: Continuation<T>,\n
crossinline block: () -> Any?)\n: Continuation<Unit> {\n @Suppress("UNCHECKED_CAST")\n return object
: CoroutineImpl(completion as Continuation<Any?>) {\n override fun doResume(): Any? {\n
exception?.let { throw it }\n return block()\n }\n }\n }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n// Mirrors signature from JS IR
BE\n\n// Used for
js.translator/testData/box/number/mulInt32.kt\n@library\n@JsName("imulEmulated")\n@Suppress("UNUSED_P
ARAMETER")\n\ninternal fun imul(x: Int, y: Int): Int =
definedExternally\n\n\n@Suppress("NOTHING_TO_INLINE")\n\ninternal inline fun isArrayish(o: dynamic) =
js("Kotlin").isArrayish(o)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\n// NOTE: Do not author your exceptions as they are written in
this file, instead use this template:\n\n/*\npublic open class MyException : Exception {\n constructor() : super()\n
constructor(message: String?) : super(message)\n constructor(message: String?, cause: Throwable?) :
super(message, cause)\n constructor(cause: Throwable?) : super(cause)\n}\n\n*/\n\n// TODO: remove primary
constructors, make all secondary\n\n@Suppress("USELESS_ELVIS_RIGHT_IS_NULL")\n\npublic actual open class Error actual
constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null)
{\n actual constructor() : this(null, null)\n actual constructor(message: String?) : this(message, null)\n
actual constructor(cause: Throwable?) : this(undefiend,
cause)\n}\n\n\n@Suppress("USELESS_ELVIS_RIGHT_IS_NULL")\n\npublic actual open class Exception actual
constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n actual constructor() :
this(null, null)\n actual constructor(message: String?) : this(message, null)\n actual constructor(cause:

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Throwable?) : this(undefined, cause)\n\npublic actual open class RuntimeException actual constructor(message:
String?, cause: Throwable?) : Exception(message, cause) {\n  actual constructor() : this(null, null)\n  actual
constructor(message: String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefined,
cause)\n}\n\npublic actual open class IllegalArgumentException actual constructor(message: String?, cause:
Throwable?) : RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual
constructor(message: String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefined,
cause)\n}\n\npublic actual open class IllegalStateException actual constructor(message: String?, cause: Throwable?)
: RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual constructor(message:
String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual
open class IndexOutOfBoundsException actual constructor(message: String?) : RuntimeException(message) {\n
actual constructor() : this(null)\n}\n\npublic actual open class ConcurrentModificationException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefined, cause)\n}\n\npublic actual open class UnsupportedOperationException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefined, cause)\n}\n\npublic actual open class NumberFormatException actual
constructor(message: String?) : IllegalArgumentException(message) {\n  actual constructor() :
this(null)\n}\n\npublic actual open class NullPointerException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\npublic actual open class
ClassCastException actual constructor(message: String?) : RuntimeException(message) {\n  actual constructor() :
this(null)\n}\n\npublic actual open class AssertionError\n@SinceKotlin("1.4")\nconstructor(message: String?,
cause: Throwable?) : Error(message, cause) {\n  actual constructor() : this(null)\n  constructor(message: String?) :
this(message, null)\n  actual constructor(message: Any?) : this(message.toString(), message as?
Throwable)\n}\n\npublic actual open class NoSuchElementException actual constructor(message: String?) :
RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\n@SinceKotlin("1.3")\npublic actual open
class ArithmeticException actual constructor(message: String?) : RuntimeException(message) {\n  actual
constructor() : this(null)\n}\n\npublic actual open class NoWhenBranchMatchedException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefined, cause)\n}\n\npublic actual open class UninitializedPropertyAccessException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n  actual constructor() :
this(null, null)\n  actual constructor(message: String?) : this(message, null)\n  actual constructor(cause:
Throwable?) : this(undefined, cause)\n}\n\n"/\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:Suppress("UNUSED_PARAMETER")\n\npackage kotlin.js\n\n@kotlin.internal.InlineOnly\n\ninternal
inline fun jsDeleteProperty(obj: Any, property: Any) {\n  js("delete
obj[property]")\n}\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun jsBitwiseOr(lhs: Any?, rhs: Any?): Int =\n
js("lhs | rhs").unsafeCast<Int>()","/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.math\n\n/**\n * Returns this value with the sign bit same as of the
[sign] value.\n * If [sign] is `NaN` the sign of the result is undefined.\n */\n\n@SinceKotlin("1.2")\n\npublic actual
fun Double.withSign(sign: Double): Double {\n  val thisSignBit =
js("Kotlin").doubleSignBit(this).unsafeCast<Int>()\n  val newSignBit =
js("Kotlin").doubleSignBit(sign).unsafeCast<Int>()\n  return if (thisSignBit == newSignBit) this else -
this}\n"/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n *

```

according to the IEEE 754 floating-point "double format" bit layout.

```

*\/n@SinceKotlin("1.2")\/n@library("doubleToBits")\/npublic actual fun Double.toBits(): Long =
definedExternally\/n\/n**\/n * Returns a bit representation of the specified floating-point value as [Long]\/n *
according to the IEEE 754 floating-point "double format" bit layout,\/n * preserving `NaN` values exact layout.\/n
*\/n@SinceKotlin("1.2")\/n@library("doubleToRawBits")\/npublic actual fun Double.toRawBits(): Long =
definedExternally\/n\/n**\/n * Returns the [Double] value corresponding to a given bit representation.\/n
*\/n@SinceKotlin("1.2")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun Double.Companion.fromBits(bits:
Long): Double = js("Kotlin").doubleFromBits(bits).unsafeCast<Double>()\/n\/n**\/n * Returns a bit representation
of the specified floating-point value as [Int]\/n * according to the IEEE 754 floating-point "single format" bit
layout.\/n *\/n * Note that in Kotlin/JS [Float] range is wider than "single format" bit layout can represent,\/n * so
some [Float] values may overflow, underflow or lose their accuracy after conversion to bits and back.\/n
*\/n@SinceKotlin("1.2")\/n@library("floatToBits")\/npublic actual fun Float.toBits(): Int =
definedExternally\/n\/n**\/n * Returns a bit representation of the specified floating-point value as [Int]\/n * according
to the IEEE 754 floating-point "single format" bit layout,\/n * preserving `NaN` values exact layout.\/n *\/n * Note
that in Kotlin/JS [Float] range is wider than "single format" bit layout can represent,\/n * so some [Float] values
may overflow, underflow or lose their accuracy after conversion to bits and back.\/n
*\/n@SinceKotlin("1.2")\/n@library("floatToRawBits")\/npublic actual fun Float.toRawBits(): Int =
definedExternally\/n\/n**\/n * Returns the [Float] value corresponding to a given bit representation.\/n
*\/n@SinceKotlin("1.2")\/n@kotlin.internal.InlineOnly\/npublic actual inline fun Float.Companion.fromBits(bits:
Int): Float =
js("Kotlin").floatFromBits(bits).unsafeCast<Float>()\/n\/n@Suppress("NOTHING_TO_INLINE")\/ninternal
inline fun Long(low: Int, high: Int) = js("Kotlin").Long.fromBits(low, high).unsafeCast<Long>()\/ninternal inline
val Long.low: Int get() = this.asDynamic().getLowBits().unsafeCast<Int>()\/ninternal inline val Long.high: Int get()
= this.asDynamic().getHighBits().unsafeCast<Int>()\/n", /*\/n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\/n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\/n *\/nimport kotlin.reflect.KClass\/n@PublishedApi\/ninternal fun <T :
Annotation> KClass<*>.findAssociatedObject(@Suppress("UNUSED_PARAMETER") annotationClass:
KClass<T>): Any? {\/n // This API is not supported in js-v1. Return `null` to be source-compatible with js-ir.\/n
return null\/n}\/n", /*\/n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\/n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\/n
*\/npackage kotlin.text\/n\/n**\/n * Returns a string representation of this [Long] value in the specified [radix].\/n
*\/n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\/n
*\/n@SinceKotlin("1.2")\/npublic actual fun Long.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\/n", /*\/n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\/n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\/n *\/npackage kotlin.text\/n\/n\/n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateUnicodeData.kt\/n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\/n\/n// 1343 ranges
totally\/nprivate object Category {\/n val decodedRangeStart: IntArray\/n val decodedRangeCategory: IntArray\/n
\/n init {\/n val toBase64 =
"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+\/"\/n val fromBase64 =
IntArray(128)\/n for (i in toBase64.indices) {\/n fromBase64[toBase64[i].code] = i\/n }\/n \/n //
rangeStartDiff.length = 1482\/n val rangeStartDiff =
"gBCFEDCKCDCaDDaDBhBCEEDDDDDDEDXBHBYBH5BRwBGDCHDCIDFHDCHFDCDEIRTEE7BGHDDJI
CBbSEMOFGERwDEDDDDDECEFCRBjBFDfCYFFCCzBvBjBBFC3BohDBmBDGpBDDCtBBJlBEECLGDFC
LDCgBBKVKEDiDDHCFECECKCEODBebC5CLBOKhBJDDDDWEBHFCFCPBZDEL1BVBSLPBgBB2BDB
DICFBHKCKCPDBHEDWBHEDDDDEDEDIBDGDCKCCGDDDCGEGCCWBFMDDCDEDDCHDDHKDDBK
DBHFCWBFgFDBDDFEDBPDDKCHBGDCHEDWBFgFDCEDEDBHDDGDCKCGJEGDBFDDFDDDDDME
FDBFDCGBOKDFDFDCGFCXBQDDDDDBEGEDFDDKHBHDDGFCXBKBFCEFCFCHECCKDNCCHFC

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Category.decodedRangeStart[index]\n    val code = Category.decodedRangeCategory[index]\n    val value =
categoryValueFrom(code, ch - start)\n    return if (value == 17) CharCategory.UNASSIGNED.value else
value\n}\n\ninternal fun decodeVarLenBase64(base64: String, fromBase64: IntArray, resultLength: Int): IntArray
{\n    val result = IntArray(resultLength)\n    var index = 0\n    var int = 0\n    var shift = 0\n    for (char in base64)
{\n        val sixBit = fromBase64[char.code]\n        int = int or ((sixBit and 0x1f) shl shift)\n        if (sixBit < 0x20)
{\n            result[index++] = int\n            int = 0\n            shift = 0\n        } else {\n            shift += 5\n        }\n    }\n}
return result\n}\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Reverses elements in the list in-
place.\n */\npublic actual fun <T> MutableList<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if
(midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n
this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n", "/*\n *
Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.text\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\n// 37 ranges totally\nprivate object Digit {\n
internal val rangeStart = intArrayOf(\n    0x0030, 0x0660, 0x06f0, 0x07c0, 0x0966, 0x09e6, 0x0a66, 0x0ae6,
0x0b66, 0x0be6, 0x0c66, 0x0ce6, 0x0d66, 0x0de6, 0x0e50, 0x0ed0, 0x0f20, 0x1040, 0x1090, 0x17e0, \n
0x1810, 0x1946, 0x19d0, 0x1a80, 0x1a90, 0x1b50, 0x1bb0, 0x1c40, 0x1c50, 0xa620, 0xa8d0, 0xa900, 0xa9d0,
0xa9f0, 0xaa50, 0xabf0, 0xff10, \n    )\n}\n\n/**\n * Returns the index of the largest element in [array] smaller or
equal to the specified [needle],\n * or -1 if [needle] is smaller than the smallest element in [array].\n */\ninternal fun
binarySearchRange(array: IntArray, needle: Int): Int {\n    var bottom = 0\n    var top = array.size - 1\n    var middle
= -1\n    var value = 0\n    while (bottom <= top) {\n        middle = (bottom + top) / 2\n        value = array[middle]\n
if (needle > value)\n            bottom = middle + 1\n        else if (needle == value)\n            return middle\n
else\n            top = middle - 1\n    }\n    return middle - (if (needle < value) 1 else 0)\n}\n\n/**\n * Returns an integer
from 0..9 indicating the digit this character represents,\n * or -1 if this character is not a digit.\n */\ninternal fun
Char.digitToIntImpl(): Int {\n    val ch = this.code\n    val index = binarySearchRange(Digit.rangeStart, ch)\n    val
diff = ch - Digit.rangeStart[index]\n    return if (diff < 10) diff else -1\n}\n\n/**\n * Returns `true` if this character
is a digit.\n */\ninternal fun Char.isDigitImpl(): Boolean {\n    return digitToIntImpl() >= 0\n}\n", "/*\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n\n//
NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\n// 222 ranges totally\nprivate object Letter {\n
val decodedRangeStart: IntArray\n    val decodedRangeLength: IntArray\n    val decodedRangeCategory: IntArray\n
\n    init {\n        val toBase64 =
\n        \"ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789+/\n        val fromBase64 =
IntArray(128)\n        for (i in toBase64.indices) {\n            fromBase64[toBase64[i].code] = i\n        }\n        \n
\n        //
rangeStartDiff.length = 356\n        val rangeStartDiff =
\n        \"hCgBpCQGYHZH5BRpBPPPPPRMP5BPPICPP6BkEPPPPcXPzBvBrB3BOiDoBHwD+E3DauCnFmBmB2D
6E1BIBTiBmBIBP5BhBiBrBvBjBqBnBPRtBiCmCtBIB0BmB5BiB7BmBgEmChBzGCoEoGVpBsFrhBPqKQ2B
wBYoFgB4CJuTiEvBuCuDrF5DgEgFIJ1DgFmBQtBsBRGsB+BPiBID1EIJDPRPPPPPPPPPGQSQS/DxENVNU+
B9zCwBwBPPCkDPNnBPqDYY1R8B7FkFgTgwGgwUwmBgKwBuBScmEP/BPPPPPrBP8B7F1B/ErBqC6B7B
iBmBfQsBUwCw/KwqIwLwETPcPjQgJxFgBIBsD\"\n        val diff = decodeVarLenBase64(rangeStartDiff,
fromBase64, 222)\n        val start = IntArray(diff.size)\n        for (i in diff.indices) {\n            if (i == 0) start[i] =
diff[i]\n            else start[i] = start[i - 1] + diff[i]\n        }\n        decodedRangeStart = start\n        \n
\n        //
rangeLength.length = 328\n        val rangeLength =

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\`aaMBXHYH5BRpBPPPPPPRMP5BPPICPPzBDOOPPcPXPzBvBjB3BOhDmBBpB7DoDYxB+EiBP1DoExBkB
QhBekBPmBgBhBctBiBMWOOXhCsBpBkBUV3Ba4BkB0D1CgBXgBtD4FSdBfPhBPpKP0BvBXjEQ2CGsT8Dh
BtCqDpFvD1D3E0IrD2EkBjRBDObSb+BPiBIB1EljDPPPPPPPPPPGPPMNLsBNPNPKCvBvBPPCkDPBmBPh
DXXgD4B6FzEgDguG9vUtkB9JcuBSckEP/BPPPPPPBPf4FrBjEhBpC3B5BKaWPrBOWCk/KsCuLqDHPbPxPsFt
EaaqDL`\n    decodedRangeLength = decodeVarLenBase64(rangeLength, fromBase64, 222)\n    \n    //
rangeCategory.length = 959\n    val rangeCategory =
\`GFjgggUHGFFZZZmzpz5qB6s6020B60ptltB6smt2sB60mz22B1+vv+8BZZ5s2850BW5q1ymtB506smzBF3q1
q1qB1q1q1+Bgii4wDTm74g3KigxqM60q1q1Bq1o1q1BF1qlrqrBZ2q5wprBGFZWWZGHFsjiioLowgmOowjkw
CkgoiIk7ligGogioBkwkiYkzj2oNoi+sbkwj04DghhkQ8wgiYkgoioDsgnkWC4gikQ//v+85BkwvoIsgoyl4ygu0whiw
Eowri4CoghsJowgqYowgm4DkwgsY/nwnzPowhmYkg6wI8yggZswikwHgxgmIoxgqYkwgk4DKxgmIkgoioBsgsso
BgzyI8g9gL8g9kI0wgwJoxgkoC0wgioFkw/wI0w53iF4gioYowjmgBHGq1qkgwBF1q1q8qBHwghuIwghyKk0go
QkwgoQk3goQHGFHky0pBgxj6IoinkxDswno7Ikwhz9Bo0gioB8z48Rwli0xN0mpjoX8w78pDwltoqKHFGGwwg
sIHFH3q1q16BFHWFZ1q10q1B2qlwq1B1q10q1B2q1yq1B6q1gq1Biq1qhxBir1qp1Bqt1q1q1B1g1q1+B//3q16B//q
1qBH/qlq9Bholq9B1i00a1q10qD1op1HkwmigEigiy6Cptogq1Bixo1kDq7/j00B2qgoBWGFm1lz50B6s5q1+BG
WhggzhwBFFhgk4//Bo2jigE8wguI8wguI8wguUog1qoB4qjmIwwi2KkgYHHH4IBgiFWkgIWoghssMmz5smrBZ
3q1y50B5sm7gzBtz1smzB5smz50BqzqtmzB5sgzqzBF2/9//5BowgoIwmnkzPkwgk4C8ys65BkgoqI0wgy6FghquZo
2giY0ghiIsgH24B4ghsQ8QF/v1q1OFs0O8iCHHF1qggz/B8wg6Iznv+//B08QgohsjK0QGfK7hsQ4gB`\n
decodedRangeCategory = decodeVarLenBase64(rangeCategory, fromBase64, 222)\n    }\n}\n\n/*\n * Returns
`true` if this character is a letter.\n */\ninternal fun Char.isLetterImpl(): Boolean {\n    return getLetterType() !=
0\n}\n}\n\n/*\n * Returns `true` if this character is a lower case letter, or it has contributory property
`Other_Lowercase`.\n */\ninternal fun Char.isLowerCaseImpl(): Boolean {\n    return getLetterType() == 1 ||
code.isOtherLowercase()\n}\n}\n\n/*\n * Returns `true` if this character is an upper case letter, or it has contributory
property `Other_Uppercase`.\n */\ninternal fun Char.isUpperCaseImpl(): Boolean {\n    return getLetterType() == 2
|| code.isOtherUppercase()\n}\n}\n\n/*\n * Returns\n * - `1` if the character is a lower case letter,\n * - `2` if the
character is an upper case letter,\n * - `3` if the character is a letter but not a lower or upper case letter,\n * - `0`
otherwise.\n */\nprivate fun Char.getLetterType(): Int {\n    val ch = this.code\n    val index =
binarySearchRange(Letter.decodedRangeStart, ch)\n    val rangeStart = Letter.decodedRangeStart[index]\n    val
rangeEnd = rangeStart + Letter.decodedRangeLength[index] - 1\n    val code =
Letter.decodedRangeCategory[index]\n    if (ch > rangeEnd) {\n        return 0\n    }\n    val lastTwoBits = code
and 0x3\n    if (lastTwoBits == 0) { // gap pattern\n        var shift = 2\n        var threshold = rangeStart\n        for (i
in 0..1) {\n            threshold += (code shr shift) and 0x7\n            if (threshold > ch) {\n                return 3\n
            }\n            shift += 7\n            threshold += (code shr shift) and 0x7\n            if (threshold > ch) {\n                return
0\n            }\n            shift += 7\n        }\n        return 3\n    }\n    if (code <= 0x7) {\n        return lastTwoBits\n
    }\n    val distance = (ch - rangeStart)\n    val shift = if (code <= 0x1F) distance % 2 else distance\n    return (code
shr (2 * shift)) and 0x3\n}\n}\n\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the
GenerateUnicodeData.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\nprivate object
OtherLowercase {\n    internal val otherLowerStart = intArrayOf(\n        0x00aa, 0x00ba, 0x02b0, 0x02c0, 0x02e0,
0x0345, 0x037a, 0x1d2c, 0x1d78, 0x1d9b, 0x2071, 0x207f, 0x2090, 0x2170, 0x24d0, 0x2c7c, 0xa69c, 0xa770,
0xa7f8, 0xab5c, \n    )\n    internal val otherLowerLength = intArrayOf(\n        1, 1, 9, 2, 5, 1, 1, 63, 1, 37, 1, 1, 13,
16, 26, 2, 2, 1, 2, 4, \n    )\n}\n\ninternal fun Int.isOtherLowercase(): Boolean {\n    val index =
binarySearchRange(OtherLowercase.otherLowerStart, this)\n    return index >= 0 && this <
OtherLowercase.otherLowerStart[index] + OtherLowercase.otherLowerLength[index]\n}\n}\n\n", /*\n * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n//
NOTE: THIS FILE IS AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\ninternal fun Int.isOtherUppercase(): Boolean

```



```

{\n return this in 0x2160..0x216f\n      || this in 0x24b6..0x24cf\n}\n"/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char
sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun
CharSequence.elementAt(index: Int): Char {\n return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, length: $length}") }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n\n// 4 ranges totally\n\ninternal fun
Char.titlecaseCharImpl(): Char {\n val code = this.code\n // Letters repeating <Lu, Lt, Ll> sequence and code of
the Lt is a multiple of 3, e.g. <u01c4, u01c5, u01c6>\n if (code in 0x01c4..0x01cc || code in 0x01f1..0x01f3) {\n
return (3 * ((code + 1) / 3)).toChar()\n }\n // Lower case letters whose title case mapping equivalent is equal
to the original letter\n if (code in 0x10d0..0x10fa || code in 0x10fd..0x10ff) {\n return this\n }\n return
uppercaseChar()\n }"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport
kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.elementAt(index: Int):
UInt {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.elementAt(index: Int):
ULong {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.elementAt(index: Int):
UByte {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.elementAt(index: Int):
UShort {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.asList(): List<UInt> {\n
return object : AbstractList<UInt>(), RandomAccess {\n override val size: Int get() = this@asList.size\n
override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: UInt): Boolean =
this@asList.contains(element)\n override fun get(index: Int): UInt {\n
AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun
indexOf(element: UInt): Int {\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is UInt)
return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UInt): Int
{\n @Suppress("USELESS_CAST")\n if ((element as Any?) !is UInt) return -1\n return
this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n

```

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.asList(): List<ULong>
{\n    return object : AbstractList<ULong>(), RandomAccess {\n        override val size: Int get() = this@asList.size\n        override fun isEmpty(): Boolean = this@asList.isEmpty()\n        override fun contains(element: ULong):
Boolean = this@asList.contains(element)\n        override fun get(index: Int): ULong {\n
AbstractList.checkElementIndex(index, size)\n            return this@asList[index]\n        }\n        override fun
indexOf(element: ULong): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is
ULong) return -1\n            return this@asList.indexOf(element)\n        }\n        override fun lastIndexOf(element:
ULong): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is ULong) return -1\n
return this@asList.lastIndexOf(element)\n        }\n    }\n}\n\n/**\n * Returns a [List] that wraps the original
array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.asList():
List<UByte> {\n    return object : AbstractList<UByte>(), RandomAccess {\n        override val size: Int get() =
this@asList.size\n        override fun isEmpty(): Boolean = this@asList.isEmpty()\n        override fun
contains(element: UByte): Boolean = this@asList.contains(element)\n        override fun get(index: Int): UByte {\n
AbstractList.checkElementIndex(index, size)\n            return this@asList[index]\n        }\n        override fun
indexOf(element: UByte): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is
UByte) return -1\n            return this@asList.indexOf(element)\n        }\n        override fun lastIndexOf(element:
UByte): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is UByte) return -1\n
return this@asList.lastIndexOf(element)\n        }\n    }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.asList(): List<UShort>
{\n    return object : AbstractList<UShort>(), RandomAccess {\n        override val size: Int get() = this@asList.size\n
        override fun isEmpty(): Boolean = this@asList.isEmpty()\n        override fun contains(element: UShort):
Boolean = this@asList.contains(element)\n        override fun get(index: Int): UShort {\n
AbstractList.checkElementIndex(index, size)\n            return this@asList[index]\n        }\n        override fun
indexOf(element: UShort): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is
UShort) return -1\n            return this@asList.indexOf(element)\n        }\n        override fun lastIndexOf(element:
UShort): Int {\n            @Suppress("USELESS_CAST")\n            if ((element as Any?) !is UShort) return -1\n
return this@asList.lastIndexOf(element)\n        }\n    }\n}\n\n"/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateUnicodeData.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\n/\n// 9 ranges totally\n\n/**\n * Returns `true` if this
character is a whitespace.\n */\ninternal fun Char.isWhitespaceImpl(): Boolean {\n    val ch = this.code\n    return ch
in 0x0009..0x000d\n        || ch in 0x001c..0x0020\n        || ch == 0x00a0\n        || ch > 0x1000 && (\n
ch == 0x1680\n        || ch in 0x2000..0x200a\n        || ch == 0x2028\n        || ch == 0x2029\n
|| ch == 0x202f\n        || ch == 0x205f\n        || ch == 0x3000\n        )\n}\n\n"/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n\npublic actual fun
interface Comparator<T> {\n    @JsName("compare")\n    public actual fun compare(a: T, b: T): Int\n}\n\n"/*\n *
Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\nimport kotlin.annotation.AnnotationTarget.*\n\n@Target(FUNCTION)\n@Deprecated("Use inline
extension function with body using dynamic")\npublic annotation class
nativeGetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using
dynamic")\npublic annotation class nativeSetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension
function with body using dynamic")\npublic annotation class nativeInvoke\n\n@Target(CLASS, FUNCTION,
PROPERTY)\ninternal annotation class library(public val name: String = "")\n\n@Target(CLASS)\ninternal
annotation class marker\n\n/**\n * Gives a declaration (a function, a property or a class) specific name in
JavaScript.\n */\n * This may be useful in the following cases:\n */\n * * There are two functions for which the

```

compiler gives same name in JavaScript, you can mark one with `@JsName(...)` to prevent the compiler from reporting error.

You are writing a JavaScript library in Kotlin. The compiler produces mangled names for functions with parameters, which is unnatural for usual JavaScript developer. You can put `@JsName(...)` on functions you want to be available from JavaScript.

For some reason you want to rename declaration, e.g. there's common term in JavaScript for a concept provided by the declaration, which is uncommon in Kotlin.

Example:

```
kotlin
class Person(val name: String) {
    fun hello() {
        println("Hello $name!")
    }
}
@JsName("helloWithGreeting")
fun hello(greeting: String) {
    println("$greeting $name!")
}
```

`@property name` the name which compiler uses both for declaration itself and for all references to the declaration. It's required to denote a valid JavaScript identifier.

```
@Retention(AnnotationRetention.BINARY)
@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)
public actual annotation class JsName(actual val name: String)
```

Denotes an `external` declaration that must be imported from native JavaScript library. The compiler produces the code relevant for the target module system, for example, in case of CommonJS, it will import the declaration via the `require(...)` function. The annotation can be used on top-level external declarations (classes, properties, functions) and files. In case of file (which can't be `external`) the following rule applies: all the declarations in the file must be `external`. By applying `@JsModule(...)` on a file you tell the compiler to import a JavaScript object that contain all the declarations from the file.

Example:

```
kotlin
@JsModule("jquery")
external abstract class JQuery() {
    // some declarations here
}
@JsModule("jquery")
external fun JQuery(element: Element): JQuery
```

`@property import name of a module to import declaration from.` It is not interpreted by the Kotlin compiler, it's passed as is directly to the target module system.

```
@see JsNonModule
@Retention(AnnotationRetention.BINARY)
@Target(CLASS, PROPERTY, FUNCTION, FILE)
public annotation class JsModule(val import: String)
```

Denotes an `external` declaration that can be used without module system. By default, an `external` declaration is available regardless your target module system. However, by applying `[JsModule]` annotation you can make a declaration unavailable to `plain` module system. Some JavaScript libraries are distributed both as a standalone downloadable piece of JavaScript and as a module available as an npm package. To tell the Kotlin compiler to accept both cases, you can augment `[JsModule]` with the `@JsNonModule` annotation. For example:

```
kotlin
@JsModule("jquery")
@JsNonModule
@JsName("$")
external abstract class JQuery() {
    // some declarations here
}
@JsModule("jquery")
@JsNonModule
@JsName("$")
external fun JQuery(element: Element): JQuery
```

`@see JsModule`

```
@Retention(AnnotationRetention.BINARY)
@Target(CLASS, PROPERTY, FUNCTION, FILE)
public annotation class JsNonModule
```

Adds prefix to `external` declarations in a source file. JavaScript does not have concept of packages (namespaces). They are usually emulated by nested objects. The compiler turns references to `external` declarations either to plain unprefix names (in case of `plain` modules) or to plain imports. However, if a JavaScript library provides its declarations in packages, you won't be satisfied with this. You can tell the compiler to generate additional prefix before references to `external` declarations using the `@JsQualifier(...)` annotation. Note that a file marked with the `@JsQualifier(...)` annotation can't contain non-`external` declarations. Example:

```
@file:JsQualifier("my.jsPackageName")
package some.kotlinPackage
external fun foo(x: Int)
external fun bar(): String
```

`@property value the qualifier to add to the declarations in the generated code.` It must be a sequence of valid JavaScript identifiers separated by the `.`` character. Examples of valid qualifiers are: `foo`, `bar.Baz`, `_.$.f`.

```
@see JsModule
@Retention(AnnotationRetention.BINARY)
@Target(AnnotationTarget.FILE)
public annotation class JsQualifier(val value: String)
```

Exports top-level declaration on JS platform. Compiled module exposes declarations that are marked with this annotation without name mangling. This annotation can be applied to either files or top-level declarations. It is currently prohibited to export the following kinds of declarations:

- `expect` declarations
- inline functions with reified type parameters
- suspend functions
- secondary constructors without `@JsName`
- extension properties
- enum classes

annotation classes\n \* Signatures of exported declarations must only contain \"exportable\" types:\n \* \* `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`\n \* \* `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`\n \* \* `Array<exportable-type>`\n \* \* Function types with exportable parameters and return types\n \* \* `external` or `@JsExport` classes and interfaces\n \* \* Nullable counterparts of types above\n \* \* Unit return type. Must not be nullable\n \* \* This annotation is experimental, meaning that restrictions mentioned above are subject to change.\n

```

*\/\n@ExperimentalJsExport\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY,
FUNCTION, FILE)\n@SinceKotlin(\"1.3\")\npublic actual annotation class JsExport\n\n/**\n * Forces a top-level
property to be initialized eagerly, opposed to lazily on the first access to file and/or property.\n
*\/\n@ExperimentalStdlibApi\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.PROPER
TY)\n@SinceKotlin(\"1.6\")\n@Deprecated(\"This annotation is a temporal migration assistance and may be
removed in the future releases, please consider filing an issue about the case where it is needed\")\npublic annotation
class EagerInitialization\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\/\n\npackage kotlin.jvm\n\n// these are used in common generated code in stdlib\n\n//
TODO: find how to deprecate these
\n\n@Target(AnnotationTarget.FIELD)\n@Retention(AnnotationRetention.SOURCE)\npublic actual
annotation class Volatile\n\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY_GETTER,
AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation
class Synchronized\n\n/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\/\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the
[MutableCollection] interface.\n *\/\n * @param E the type of elements contained in the collection. The collection is
invariant in its element type.\n *\/\npublic actual abstract class AbstractMutableCollection<E> protected actual
constructor() : AbstractCollection<E>(), MutableCollection<E> {\n\n    actual abstract override fun add(element: E):
Boolean\n\n    actual override fun remove(element: E): Boolean {\n        checkIsMutable()\n        val iterator =
iterator()\n        while (iterator.hasNext()) {\n            if (iterator.next() == element) {\n                iterator.remove()\n
            }\n        }\n        return true\n    }\n\n    actual override fun addAll(elements:
Collection<E>): Boolean {\n        checkIsMutable()\n        var modified = false\n        for (element in elements) {\n
            if (add(element)) modified = true\n        }\n        return modified\n    }\n\n    actual override fun
removeAll(elements: Collection<E>): Boolean {\n        checkIsMutable()\n        return (this as
MutableIterable<E>).removeAll { it in elements }\n    }\n\n    actual override fun retainAll(elements:
Collection<E>): Boolean {\n        checkIsMutable()\n        return (this as MutableIterable<E>).removeAll { !it in
elements }\n    }\n\n    actual override fun clear(): Unit {\n        checkIsMutable()\n        val iterator = this.iterator()\n
        while (iterator.hasNext()) {\n            iterator.next()\n            iterator.remove()\n        }\n    }\n\n    @Deprecated(\"Provided so that subclasses inherit this function\", level = DeprecationLevel.HIDDEN)\n\n    @JsName(\"toJSON\")\n    protected fun toJSON(): Any = this.toArray()\n\n\n    /**\n     * This method is called
every time when a mutating method is called on this mutable collection.\n     * Mutable collections that are built
(frozen) must throw `UnsupportedOperationException`.\n     *\/\n    internal open fun checkIsMutable(): Unit {\n
    }\n\n\n    /**\n     * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n     * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n     *\/\n\n    /**\n     * Based on GWT AbstractList\n     * Copyright 2007 Google Inc.\n     *\/\n\n\n    package
kotlin.collections\n\n\n    /**\n     * Provides a skeletal implementation of the [MutableList] interface.\n     *\/\n     * @param E
the type of elements contained in the list. The list is invariant in its element type.\n     *\/\n    public actual abstract class
AbstractMutableList<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableList<E> {\n\n        protected
var modCount: Int = 0\n\n        abstract override fun add(index: Int, element: E): Unit\n        abstract override
fun removeAt(index: Int): E\n        abstract override fun set(index: Int, element: E): E\n\n\n        /**\n         * Adds the
specified element to the end of this list.\n         *\/\n         * @return `true` because the list is always modified as the result

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of this operation.\n  * actual override fun add(element: E): Boolean {\n    checkIsMutable()\n    add(size,\n    element)\n    return true\n  }\n\n  actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n    AbstractList.checkPositionIndex(index, size)\n    checkIsMutable()\n    var _index = index\n    var\n    changed = false\n    for (e in elements) {\n      add(_index++, e)\n      changed = true\n    }\n    return\n    changed\n  }\n\n  actual override fun clear() {\n    checkIsMutable()\n    removeRange(0, size)\n  }\n\n  actual override fun removeAll(elements: Collection<E>): Boolean {\n    checkIsMutable()\n    return\n    removeAll { it in elements }\n  }\n\n  actual override fun retainAll(elements: Collection<E>): Boolean {\n    checkIsMutable()\n    return removeAll { it !in elements }\n  }\n\n  actual override fun iterator():\n  MutableIterator<E> = IteratorImpl()\n\n  actual override fun contains(element: E): Boolean = indexOf(element) >=\n  0\n\n  actual override fun indexOf(element: E): Int {\n    for (index in 0..lastIndex) {\n      if (get(index) ==\n      element) {\n        return index\n      }\n    }\n    return -1\n  }\n\n  actual override fun\n  lastIndexOf(element: E): Int {\n    for (index in lastIndex downTo 0) {\n      if (get(index) == element) {\n        return index\n      }\n    }\n    return -1\n  }\n\n  actual override fun listIterator():\n  MutableListIterator<E> = listIterator(0)\n\n  actual override fun listIterator(index: Int): MutableListIterator<E> =\n  ListIteratorImpl(index)\n\n  actual override fun subList(fromIndex: Int, toIndex: Int): MutableList<E> =\n  SubList(this, fromIndex, toIndex)\n\n  /**\n   * Removes the range of elements from this list starting from\n  [fromIndex] and ending with but not including [toIndex].\n   *\n   * protected open fun removeRange(fromIndex:\n  Int, toIndex: Int) {\n    val iterator = listIterator(fromIndex)\n    repeat(toIndex - fromIndex) {\n      iterator.next()\n      iterator.remove()\n    }\n  }\n\n  /**\n   * Compares this list with another list instance\n  with the ordered structural equality.\n   *\n   * @return true, if [other] instance is a [List] of the same size, which\n  contains the same elements in the same order.\n   *\n   * override fun equals(other: Any?): Boolean {\n    if (other\n    === this) return true\n    if (other !is List<*>) return false\n    return AbstractList.orderedEquals(this, other)\n  }\n\n  /**\n   * Returns the hash code value for this list.\n   *\n   * override fun hashCode(): Int =\n  AbstractList.orderedHashCode(this)\n\n  private open inner class IteratorImpl : MutableIterator<E> {\n    /**\n     the index of the item that will be returned on the next call to [next]`()`\n     *\n     protected var index = 0\n     /**\n     the index of the item that was returned on the previous call to [next]`()`\n     *\n     or [ListIterator.previous]`()`\n     (for\n     `ListIterator`),\n     *\n     -1 if no such item exists\n     *\n     protected var last = -1\n     override fun\n     hasNext(): Boolean = index < size\n     override fun next(): E {\n       if (!hasNext()) throw\n       NoSuchElementException()\n       last = index++\n       return get(last)\n     }\n     override fun remove()\n     {\n       check(last != -1) { \"Call next() or previous() before removing element from the iterator.\" }\n     }\n     removeAt(last)\n     index = last\n     last = -1\n     }\n     }\n\n     /**\n     * Implementation of\n     `MutableListIterator` for abstract lists.\n     *\n     private inner class ListIteratorImpl(index: Int) : IteratorImpl(),\n     MutableListIterator<E> {\n       init {\n         AbstractList.checkPositionIndex(index,\n         this@AbstractMutableList.size)\n         this.index = index\n       }\n       override fun hasPrevious(): Boolean =\n       index > 0\n       override fun nextIndex(): Int = index\n       override fun previous(): E {\n         if\n         (!hasPrevious()) throw NoSuchElementException()\n         last = --index\n         return get(last)\n       }\n       override fun previousIndex(): Int = index - 1\n       override fun add(element: E) {\n         add(index, element)\n         index++\n         last = -1\n       }\n       override fun set(element: E) {\n         check(last != -1) { \"Call\n         next() or previous() before updating element value with the iterator.\" }\n         set(last, element)\n       }\n     }\n\n     private class SubList<E>(private val list: AbstractMutableList<E>, private val fromIndex: Int, toIndex: Int) :\n     AbstractMutableList<E>(), RandomAccess {\n       private var _size: Int = 0\n       init {\n         AbstractList.checkRangeIndexes(fromIndex, toIndex, list.size)\n         this._size = toIndex - fromIndex\n       }\n       override fun add(index: Int, element: E) {\n         AbstractList.checkPositionIndex(index, _size)\n         list.add(fromIndex + index, element)\n         _size++\n       }\n       override fun get(index: Int): E {\n         AbstractList.checkElementIndex(index, _size)\n         return list[fromIndex + index]\n       }\n       override\n       fun removeAt(index: Int): E {\n         AbstractList.checkElementIndex(index, _size)\n         val result =\n         list.removeAt(fromIndex + index)\n         _size--\n         return result\n       }\n       override fun set(index: Int,\n       element: E): E {\n         AbstractList.checkElementIndex(index, _size)\n         return list.set(fromIndex + index,\n
```

```

element)\n    }\n    override val size: Int get() = _size\n    internal override fun checkIsMutable(): Unit =
list.checkIsMutable()\n    }\n}\n"/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n * Based on GWT AbstractMap\n * Copyright 2007 Google Inc.\n
*/\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the [MutableMap] interface.\n *
* The implementor is required to implement [entries] property, which should return mutable set of map entries, and
[put] function.\n * @param K the type of map keys. The map is invariant in its key type.\n * @param V the type
of map values. The map is invariant in its value type.\n */\n\npublic actual abstract class AbstractMutableMap<K, V>
protected actual constructor() : AbstractMap<K, V>(), MutableMap<K, V> {\n\n    /**\n     * A mutable
[Map.Entry] shared by several [Map] implementations.\n     */\n    internal open class SimpleEntry<K, V>(override
val key: K, value: V) : MutableMap.MutableEntry<K, V> {\n        constructor(entry: Map.Entry<K, V>) :
this(entry.key, entry.value)\n        private var _value = value\n        override val value: V get() = _value\n
        override fun setValue(newValue: V): V {\n            // Should check if the map containing this entry is mutable.\n
            // However, to not increase entry memory footprint it might be worthwhile not to check it here and\n
            // force subclasses that implement `build()` (freezing) operation to implement their own `MutableEntry`.\n
        }
        this@AbstractMutableMap.checkIsMutable()\n        val oldValue = this._value\n        this._value = newValue\n
        return oldValue\n    }\n\n    override fun hashCode(): Int = entryHashCode(this)\n    override fun
toString(): String = entryToString(this)\n    override fun equals(other: Any?): Boolean = entryEquals(this,
other)\n\n    // intermediate abstract class to workaround KT-43321\n    internal abstract class
AbstractEntrySet<E : Map.Entry<K, V>, K, V> : AbstractMutableSet<E>() {\n        final override fun
contains(element: E): Boolean = containsEntry(element)\n        abstract fun containsEntry(element: Map.Entry<K,
V>): Boolean\n        final override fun remove(element: E): Boolean = removeEntry(element)\n        abstract fun
removeEntry(element: Map.Entry<K, V>): Boolean\n    }\n\n    actual override fun clear() {\n        entries.clear()\n
}\n\n    private var _keys: MutableSet<K>? = null\n    actual override val keys: MutableSet<K>\n        get() {\n
if (_keys == null) {\n            _keys = object : AbstractMutableSet<K>() {\n                override fun
add(element: K): Boolean = throw UnsupportedOperationException("Add is not supported on keys")\n            }\n
        }\n        override fun clear() {\n            this@AbstractMutableMap.clear()\n        }\n        override
operator fun contains(element: K): Boolean = containsKey(element)\n        override operator fun iterator():
MutableIterator<K> {\n            val entryIterator = entries.iterator()\n            return object :
MutableIterator<K> {\n                override fun hasNext(): Boolean = entryIterator.hasNext()\n                override
fun next(): K = entryIterator.next().key\n                override fun remove() =
entryIterator.remove()\n            }\n        }\n        override fun remove(element: K): Boolean
{\n            checkIsMutable()\n            if (containsKey(element)) {\n                this@AbstractMutableMap.remove(element)\n
            }\n            return true\n        }\n        return false\n    }\n\n    override val size: Int get() = this@AbstractMutableMap.size\n
    override fun checkIsMutable(): Unit = this@AbstractMutableMap.checkIsMutable()\n\n    return _keys!!\n\n    actual abstract override fun put(key: K, value: V): V?\n    actual override fun
putAll(from: Map<out K, V>) {\n        checkIsMutable()\n        for ((key, value) in from) {\n            put(key,
value)\n        }\n    }\n\n    private var _values: MutableCollection<V>? = null\n    actual override val values:
MutableCollection<V>\n        get() {\n            if (_values == null) {\n                _values = object :
AbstractMutableCollection<V>() {\n                    override fun add(element: V): Boolean = throw
UnsupportedOperationException("Add is not supported on values")\n                }\n                override fun clear() =
this@AbstractMutableMap.clear()\n                override operator fun contains(element: V): Boolean =
containsValue(element)\n                override operator fun iterator(): MutableIterator<V> {\n                    val
entryIterator = entries.iterator()\n                    return object : MutableIterator<V> {\n                        override
fun hasNext(): Boolean = entryIterator.hasNext()\n                        override fun next(): V = entryIterator.next().value\n
                        override fun remove() = entryIterator.remove()\n                    }\n                }\n            }\n
        }\n        override val size: Int get() = this@AbstractMutableMap.size\n        override fun checkIsMutable(): Unit =

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this@AbstractMutableMap.checkIsMutable()\n        }\n        }\n        return _values!!\n        }\n\n actual
override fun remove(key: K): V? {\n        checkIsMutable()\n        val iter = entries.iterator()\n        while
(iter.hasNext()) {\n        val entry = iter.next()\n        val k = entry.key\n        if (key == k) {\n        val
value = entry.value\n        iter.remove()\n        return value\n        }\n        }\n        return null\n        }\n\n\n
/**\n * This method is called every time when a mutating method is called on this mutable map.\n * Mutable
maps that are built (frozen) must throw `UnsupportedOperationException`.\n * ^\n internal open fun
checkIsMutable(): Unit {\n}\n\n",/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the
[MutableSet] interface.\n */\n * @param E the type of elements contained in the set. The set is invariant in its
element type.\n */\npublic actual abstract class AbstractMutableSet<E> protected actual constructor() :
AbstractMutableCollection<E>(), MutableSet<E> {\n\n /**\n * Compares this set with another set instance with
the unordered structural equality.\n * \n * @return `true`, if [other] instance is a [Set] of the same size, all
elements of which are contained in this set.\n * ^\n override fun equals(other: Any?): Boolean {\n        if (other
=== this) return true\n        if (other !is Set<*>) return false\n        return AbstractSet.setEquals(this, other)\n        }\n\n
/**\n * Returns the hash code value for this set.\n * ^\n override fun hashCode(): Int =
AbstractSet.unorderedHashCode(this)\n\n\n",/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Provides a [MutableList] implementation,
which uses a resizable array as its backing storage.\n * \n * This implementation doesn't provide a way to manage
capacity, as backing JS array is resizable itself.\n * There is no speed advantage to pre-allocating array sizes in
JavaScript, so this implementation does not include any of the\n * capacity and "growth increment" concepts.\n
*/\npublic actual open class ArrayList<E> internal constructor(private var array: Array<Any?>) :
AbstractMutableList<E>(), MutableList<E>, RandomAccess {\n        private var isReadOnly: Boolean = false\n\n
/**\n * Creates an empty [ArrayList].\n * ^\n public actual constructor() : this(emptyArray()) {\n}\n\n /**\n
* Creates an empty [ArrayList].\n * @param initialCapacity initial capacity (ignored)\n * ^\n public actual
constructor(initialCapacity: Int) : this(emptyArray()) {\n}\n\n /**\n * Creates an [ArrayList] filled from the
[elements] collection.\n * ^\n public actual constructor(elements: Collection<E>) :
this(elements.toTypedArray<Any?>()) {\n}\n\n @PublishedApi\n internal fun build(): List<E> {\n
checkIsMutable()\n        isReadOnly = true\n        return this\n        }\n\n /** Does nothing in this ArrayList
implementation. *\n public actual fun trimToSize() {\n}\n\n /** Does nothing in this ArrayList implementation.
*\n public actual fun ensureCapacity(minCapacity: Int) {\n}\n\n actual override val size: Int get() = array.size\n
@Suppress("UNCHECKED_CAST")\n actual override fun get(index: Int): E = array[rangeCheck(index)] as E\n\n
actual override fun set(index: Int, element: E): E {\n        checkIsMutable()\n        rangeCheck(index)\n
@Suppress("UNCHECKED_CAST")\n        return array[index].apply { array[index] = element } as E\n        }\n\n
actual override fun add(element: E): Boolean {\n        checkIsMutable()\n        array.asDynamic().push(element)\n
modCount++\n        return true\n        }\n\n actual override fun add(index: Int, element: E): Unit {\n
checkIsMutable()\n        array.asDynamic().splice(insertionRangeCheck(index), 0, element)\n        modCount++\n
}\n\n actual override fun addAll(elements: Collection<E>): Boolean {\n        checkIsMutable()\n        if
(elements.isEmpty()) return false\n        array += elements.toTypedArray<Any?>()\n        modCount++\n
return true\n        }\n\n actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n
checkIsMutable()\n        insertionRangeCheck(index)\n\n        if (index == size) return addAll(elements)\n        if
(elements.isEmpty()) return false\n        when (index) {\n            size -> return addAll(elements)\n            0 -> array
= elements.toTypedArray<Any?>() + array\n            else -> array = array.copyOfRange(0,
index).asDynamic().concat(elements.toTypedArray<Any?>(), array.copyOfRange(index, size))\n        }\n\n
modCount++\n        return true\n        }\n\n actual override fun removeAt(index: Int): E {\n        checkIsMutable()\n
rangeCheck(index)\n        modCount++\n        return if (index == lastIndex)\n            array.asDynamic().pop()\n
        else\n            array.asDynamic().splice(index, 1)[0]\n        }\n\n actual override fun remove(element: E): Boolean {\n

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    checkIsMutable()\n    for (index in array.indices) {\n        if (array[index] == element) {\n            array.asDynamic().splice(index, 1)\n            modCount++\n            return true\n        }\n    }\n    return false\n}\n\noverride fun removeRange(fromIndex: Int, toIndex: Int) {\n    checkIsMutable()\n    modCount++\n    array.asDynamic().splice(fromIndex, toIndex - fromIndex)\n}\n\nactual override fun clear() {\n    checkIsMutable()\n    array = emptyArray()\n    modCount++\n}\n\n\nactual override fun indexOf(element: E): Int = array.indexOf(element)\n\nactual override fun lastIndexOf(element: E): Int = array.lastIndexOf(element)\n\noverride fun toString() = arrayToString(array)\n\n@Suppress("UNCHECKED_CAST")\noverride fun <T> toArray(array: Array<T>): Array<T> {\n    if (array.size < size) {\n        return toArray() as Array<T>\n    }\n    (this.array as Array<T>).copyInto(array)\n    if (array.size > size) {\n        array[size] = null as T // null-terminate\n    }\n    return array\n}\n\noverride fun toArray(): Array<Any?> {\n    return js("[ ]").slice.call(array)\n}\n\n\ninternal override fun checkIsMutable() {\n    if (isReadOnly) throw UnsupportedOperationException()\n}\n\nprivate fun rangeCheck(index: Int) = index.apply {\n    AbstractList.checkElementIndex(index, size)\n}\n\nprivate fun insertionRangeCheck(index: Int) = index.apply {\n    AbstractList.checkPositionIndex(index, size)\n}\n\n}"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninternal fun <T> sortArrayWith(array: Array<out T>, comparison: (T, T) -> Int) {\n    if (getStableSortingIsSupported()) {\n        array.asDynamic().sort(comparison)\n    } else {\n        mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, Comparator(comparison))\n    }\n}\n\ninternal fun <T> sortArrayWith(array: Array<out T>, comparator: Comparator<in T>) {\n    if (getStableSortingIsSupported()) {\n        val comparison = { a: T, b: T -> comparator.compare(a, b) }\n        array.asDynamic().sort(comparison)\n    } else {\n        mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparator)\n    }\n}\n\ninternal fun <T> sortArrayWith(array: Array<out T>, fromIndex: Int, toIndex: Int, comparator: Comparator<in T>) {\n    if (fromIndex < toIndex - 1) {\n        mergeSort(array.unsafeCast<Array<T>>(), fromIndex, toIndex - 1, comparator)\n    }\n}\n\ninternal fun <T : Comparable<T>> sortArray(array: Array<out T>) {\n    if (getStableSortingIsSupported()) {\n        val comparison = { a: T, b: T -> a.compareTo(b) }\n        array.asDynamic().sort(comparison)\n    } else {\n        mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, naturalOrder())\n    }\n}\n\nprivate var _stableSortingIsSupported: Boolean? = null\n\nprivate fun getStableSortingIsSupported(): Boolean {\n    _stableSortingIsSupported?.let { return it }\n    _stableSortingIsSupported = false\n    val array = js("[ ]").unsafeCast<Array<Int>>()\n    // known implementations may use stable sort for arrays of up to 512 elements\n    // so we create slightly more elements to test stability\n    for (index in 0 until 600) array.asDynamic().push(index)\n    val comparison = { a: Int, b: Int -> (a and 3) - (b and 3) }\n    array.asDynamic().sort(comparison)\n    for (index in 1 until array.size) {\n        val a = array[index - 1]\n        val b = array[index]\n        if ((a and 3) == (b and 3) && a >= b) return false\n    }\n    _stableSortingIsSupported = true\n    return true\n}\n\nprivate fun <T> mergeSort(array: Array<T>, start: Int, endInclusive: Int, comparator: Comparator<in T>) {\n    val buffer = arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>()\n    val result = mergeSort(array, buffer, start, endInclusive, comparator)\n    if (result !== array) {\n        for (i in start..endInclusive) array[i] = result[i]\n    }\n}\n\n// Both start and end are inclusive indices.\nprivate fun <T> mergeSort(array: Array<T>, buffer: Array<T>, start: Int, end: Int, comparator: Comparator<in T>): Array<T> {\n    if (start == end) {\n        return array\n    }\n    val median = (start + end) / 2\n    val left = mergeSort(array, buffer, start, median, comparator)\n    val right = mergeSort(array, buffer, median + 1, end, comparator)\n    val target = if (left === buffer) array else buffer\n\n    // Merge.\n    var leftIndex = start\n    var rightIndex = median + 1\n    for (i in start..end) {\n        when {\n            leftIndex <= median && rightIndex <= end -> {\n                val leftValue = left[leftIndex]\n                val rightValue = right[rightIndex]\n                if (comparator.compare(leftValue, rightValue) <= 0) {\n                    target[i] = leftValue\n                    leftIndex++\n                } else {\n                    target[i] = rightValue\n                    rightIndex++\n                }\n            }\n            leftIndex <= median -> {\n                target[i] = left[leftIndex]\n                leftIndex++\n            }\n            else /* rightIndex <= end */ -> {\n                target[i] = right[rightIndex]\n                rightIndex++\n            }\n        }\n    }\n}\n}

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rightIndex++\n          Unit // TODO: Fix KT-31506\n          }\n          }\n          }\n          return target\n          }", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage\nkotlin.collections\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@kotlin.js.JsName("\ncontentDeepHashCodeImpl")\ninternal fun <T> Array<out T>?.contentDeepHashCodeImpl(): Int {\n    if (this ==\nnull) return 0\n    var result = 1\n    for (element in this) {\n        val elementHash = when {\n            element == null\n-> 0\n            isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()\n            element is UByteArray -> element.contentHashCode()\n            element is UShortArray ->\n            element.contentHashCode()\n            element is UIntArray -> element.contentHashCode()\n            element is\n            ULongArray -> element.contentHashCode()\n            else\n                -> element.hashCode()\n        }\n        result = 31 * result + elementHash\n    }\n    return result\n}", /*\n * Copyright 2010-2018 JetBrains s.r.o. and\nKotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that\n    can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninternal interface\nEqualityComparator {\n    /**\n     * Subclasses must override to return a value indicating\n     * whether or not two\n    keys or values are equal.\n     */\n    abstract fun equals(value1: Any?, value2: Any?): Boolean\n\n    /**\n     * Subclasses must override to return the hash code of a given key.\n     */\n    abstract fun getHashCode(value: Any?):\nInt\n\n    object hashCode : EqualityComparator {\n        override fun equals(value1: Any?, value2: Any?):\nBoolean = value1 == value2\n        override fun getHashCode(value: Any?): Int = value?.hashCode() ?: 0\n    }\n}", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this\n    source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport\nkotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based implementation of the [MutableMap]\n    interface.\n * This implementation makes no guarantees regarding the order of enumeration of [keys], [values]\n    and [entries] collections.\n * Classes that extend HashMap and implement `build()` (freezing) operation\n    have\n    to make sure mutating methods check `checkIsMutable`.\n */\npublic actual open class HashMap<K, V> :\nAbstractMutableMap<K, V>, MutableMap<K, V> {\n    private inner class EntrySet :\nAbstractEntrySet<MutableEntry<K, V>, K, V>() {\n        override fun add(element: MutableEntry<K, V>):\nBoolean = throw UnsupportedOperationException("Add is not supported on entries")\n        override fun clear()\n        {\n            this@HashMap.clear()\n        }\n        override fun containsEntry(element: Map.Entry<K, V>): Boolean\n        = this@HashMap.containsEntry(element)\n        override operator fun iterator():\nMutableIterator<MutableEntry<K, V>> = internalMap.iterator()\n        override fun removeEntry(element:\n        Map.Entry<K, V>): Boolean {\n            if (contains(element)) {\n                this@HashMap.remove(element.key)\n            }\n            return true\n        }\n        return false\n    }\n\n    override val size: Int get() =\nthis@HashMap.size\n}\n\n/**\n * Internal implementation of the map: either string-based or hashcode-\n    based.\n * private val internalMap: InternalMap<K, V>\n * private val equality: EqualityComparator\n    internal constructor(internalMap: InternalMap<K, V>) : super() {\n        this.internalMap = internalMap\n        this.equality = internalMap.equality\n    }\n\n    /**\n     * Constructs an empty [HashMap] instance.\n     */\n    actual constructor() : this(InternalHashCodeMap(EqualityComparator.HashCode))\n\n    /**\n     * Constructs an\n    empty [HashMap] instance.\n     */\n    @param initialCapacity the initial capacity (ignored)\n     * @param\n    loadFactor the load factor (ignored)\n     */\n    @throws IllegalArgumentException if the initial capacity or\n    load factor are negative\n     */\n    actual constructor(initialCapacity: Int, loadFactor: Float) : this() {\n        // This\n    implementation of HashMap has no need of load factors or capacities.\n        require(initialCapacity >= 0) {\n            "Negative initial capacity: $initialCapacity"\n        }\n        require(loadFactor >= 0) {\n            "Non-positive load factor:\n            $loadFactor"\n        }\n    }\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n    /**\n     * Constructs an instance of [HashMap] filled with the contents of the specified [original] map.\n     */\n    actual\n    constructor(original: Map<out K, V>) : this() {\n        this.putAll(original)\n    }\n\n    actual override fun clear() {\n        internalMap.clear()\n    }\n\n    actual override fun containsKey(key: K): Boolean\n    = internalMap.containsKey()\n\n    actual override fun containsValue(value: V): Boolean = internalMap.any {

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equality.equals(it.value, value) }\n\n private var _entries: MutableSet<MutableMap.MutableEntry<K, V>>? =
null\n actual override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n get() {\n if
(_entries == null) {\n _entries = createEntrySet()\n }\n return _entries!!\n }\n\n internal
open fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n actual override
operator fun get(key: K): V? = internalMap.get(key)\n\n actual override fun put(key: K, value: V): V? =
internalMap.put(key, value)\n\n actual override fun remove(key: K): V? = internalMap.remove(key)\n\n actual
override val size: Int get() = internalMap.size\n}\n\n/**\n * Constructs the specialized implementation of
[HashMap] with [String] keys, which stores the keys as properties of\n * JS object without hashing them.\n
*\npublic fun <V> stringMapOf(vararg pairs: Pair<String, V>): HashMap<String, V> {\n return
HashMap<String, V>(InternalStringMap(EqualityComparator.HashCode)).apply { putAll(pairs) }\n}\n"/*\n
* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT
HashSet\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the
[MutableSet] interface, backed by a [HashMap] instance.\n */\n\n// Classes that extend HashSet and implement
`build`() (freezing) operation\n// have to make sure mutating methods check `checkIsMutable`.\n\npublic actual open
class HashSet<E> : AbstractMutableSet<E>, MutableSet<E> {\n\n internal val map: HashMap<E, Any>\n\n
/**\n * Constructs a new empty [HashSet].\n */\n actual constructor() {\n map = HashMap<E, Any>()\n
}\n\n /**\n * Constructs a new [HashSet] filled with the elements of the specified collection.\n */\n actual
constructor(elements: Collection<E>) {\n map = HashMap<E, Any>(elements.size)\n addAll(elements)\n
}\n\n /**\n * Constructs a new empty [HashSet].\n */\n * @param initialCapacity the initial capacity
(ignored)\n * @param loadFactor the load factor (ignored)\n */\n * @throws IllegalArgumentException if
the initial capacity or load factor are negative\n */\n actual constructor(initialCapacity: Int, loadFactor: Float)
{\n map = HashMap<E, Any>(initialCapacity, loadFactor)\n }\n\n actual constructor(initialCapacity: Int) :
this(initialCapacity, 0.0f)\n\n /**\n * Protected constructor to specify the underlying map. This is used by\n
*/\n\n * @param map underlying map to use.\n */\n internal constructor(map: HashMap<E,
Any>) {\n this.map = map\n }\n\n actual override fun add(element: E): Boolean {\n val old =
map.put(element, this)\n return old == null\n }\n\n actual override fun clear() {\n map.clear()\n
}\n\n// public override fun clone(): Any {\n// return HashSet<E>(this)\n// }\n\n actual override operator fun
contains(element: E): Boolean = map.containsKey(element)\n\n actual override fun isEmpty(): Boolean =
map.isEmpty()\n\n actual override fun iterator(): MutableIterator<E> = map.keys.iterator()\n\n actual override
fun remove(element: E): Boolean = map.remove(element) != null\n\n actual override val size: Int get() =
map.size\n}\n\n/**\n * Creates a new instance of the specialized implementation of [HashSet] with the specified
[String] elements,\n * which elements the keys as properties of JS object without hashing them.\n */\n\npublic fun
stringSetOf(vararg elements: String): HashSet<String> {\n return HashSet(stringMapOf<Any>()).apply {
addAll(elements) }\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n * Based on GWT InternalHashCodeMap\n * Copyright 2008 Google Inc.\n
*/\n\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\nimport
kotlin.collections.AbstractMutableMap.SimpleEntry\n\n/**\n * A simple wrapper around JavaScriptObject to
provide [java.util.Map]-like semantics for any\n * key type.\n */\n\n * Implementation notes:\n */\n\n * A key's
hashCode is the index in backingMap which should contain that key. Since several keys may\n * have the same
hash, each value in hashCodeMap is actually an array containing all entries whose\n * keys share the same hash.\n
*/\n\ninternal class InternalHashCodeMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V>
{\n\n private var backingMap: dynamic = createJsMap()\n override var size: Int = 0\n private set\n\n
override fun put(key: K, value: V): V? {\n val hashCode = equality.getHashCode(key)\n val chainOrEntry
= getChainOrEntryOrNull(hashCode)\n if (chainOrEntry == null) {\n // This is a new chain, put it to the
map.\n backingMap[hashCode] = SimpleEntry(key, value)\n } else {\n if (chainOrEntry !is
Array<*>) {\n // It is an entry\n val entry: SimpleEntry<K, V> = chainOrEntry\n if

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(equality.equals(entry.key, key)) {\n                return entry.setValue(value)\n                } else {\n
backingMap[hashCode] = arrayOf(entry, SimpleEntry(key, value))\n                size++\n                return null\n
                }\n                } else {\n                // Chain already exists, perhaps key also exists.\n                val chain:
Array<MutableEntry<K, V>> = chainOrEntry\n                val entry = chain.findEntryInChain(key)\n                if
(entry != null) {\n                return entry.setValue(value)\n                }\n
chain.asDynamic().push(SimpleEntry(key, value))\n                }\n                }\n                size++\n                // structureChanged(host)\n
return null\n                }\n                override fun remove(key: K): V? {\n                val hashCode = equality.getHashCode(key)\n
val chainOrEntry = getChainOrEntryOrNull(hashCode) ?: return null\n                if (chainOrEntry != Array<*>) {\n
val entry: MutableEntry<K, V> = chainOrEntry\n                if (equality.equals(entry.key, key)) {\n
jsDeleteProperty(backingMap, hashCode)\n                size--\n                return entry.value\n                } else {\n
return null\n                }\n                } else {\n                val chain: Array<MutableEntry<K, V>> = chainOrEntry\n                for
(index in chain.indices) {\n                val entry = chain[index]\n                if (equality.equals(key, entry.key)) {\n
if (chain.size == 1) {\n                chain.asDynamic().length = 0\n                // remove the whole
array\n                jsDeleteProperty(backingMap, hashCode)\n                } else {\n                // splice out
the entry we're removing\n                chain.asDynamic().splice(index, 1)\n                }\n                size--\n                //
structureChanged(host)\n                return entry.value\n                }\n                }\n                }\n                return null\n
}\n                override fun clear() {\n                backingMap = createJsMap()\n                size = 0\n                }\n                override fun
contains(key: K): Boolean = getEntry(key) != null\n                override fun get(key: K): V? = getEntry(key)?.value\n
private fun getEntry(key: K): MutableEntry<K, V>? {\n                val chainOrEntry =
getChainOrEntryOrNull(equality.getHashCode(key)) ?: return null\n                if (chainOrEntry != Array<*>) {\n
val entry: MutableEntry<K, V> = chainOrEntry\n                if (equality.equals(entry.key, key)) {\n                return
entry\n                } else {\n                return null\n                }\n                } else {\n                val chain: Array<MutableEntry<K,
V>> = chainOrEntry\n                return chain.findEntryInChain(key)\n                }\n                }\n                private fun
Array<MutableEntry<K, V>>.findEntryInChain(key: K): MutableEntry<K, V>? =\n                firstOrNull { entry ->
equality.equals(entry.key, key) }\n                override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n
return object : MutableIterator<MutableEntry<K, V>> {\n                var state = -1 // -1 not ready, 0 - ready, 1 -
done\n                val keys: Array<String> = js("Object").keys(backingMap)\n                var keyIndex = -1\n
var chainOrEntry: dynamic = null\n                var isChain = false\n                var itemIndex = -1\n                var lastEntry:
MutableEntry<K, V>? = null\n                private fun computeNext(): Int {\n                if (chainOrEntry != null &&
isChain) {\n                val chainSize: Int = chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>().size\n
if (++itemIndex < chainSize)\n                return 0\n                }\n                if (++keyIndex < keys.size)
{\n                chainOrEntry = backingMap[keys[keyIndex]]\n                isChain = chainOrEntry is Array<*>\n
itemIndex = 0\n                return 0\n                } else {\n                chainOrEntry = null\n
return 1\n                }\n                }\n                override fun hasNext(): Boolean {\n                if (state == -1)\n                state = computeNext()\n                return state == 0\n                }\n                override fun next(): MutableEntry<K, V>
{\n                if (!hasNext()) throw NoSuchElementException()\n                val lastEntry = if (isChain) {\n
chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>()[itemIndex]\n                } else {\n
chainOrEntry.unsafeCast<MutableEntry<K, V>>()\n                }\n                this.lastEntry = lastEntry\n
state = -1\n                return lastEntry\n                }\n                override fun remove() {\n
checkNotNull(lastEntry)\n                this@InternalHashMap.remove(lastEntry!!.key)\n                lastEntry =
null\n                // the chain being iterated just got modified by InternalHashMap.remove\n                itemIndex-
-1\n                }\n                }\n                }\n                private fun getChainOrEntryOrNull(hashCode: Int): dynamic {\n                val
chainOrEntry = backingMap[hashCode]\n                return if (chainOrEntry === undefined) null else chainOrEntry\n
}\n                }\n                }"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\n/**\n * The common interface of [InternalStringMap] and
[InternalHashMap].\n */\n\ninternal interface InternalMap<K, V> :
MutableIterable<MutableMap.MutableEntry<K, V>> {\n                val equality: EqualityComparator\n                val size: Int\n

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operator fun contains(key: K): Boolean\n    operator fun get(key: K): V?\n\n    fun put(key: K, value: V): V?\n    fun
remove(key: K): V?\n    fun clear(): Unit\n\n    fun createJsMap(): dynamic {\n        val result =
js("Object.create(null)")\n        // force to switch object representation to dictionary mode\n        result["foo"] =
1\n        jsDeleteProperty(result, "foo")\n        return result\n    }\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n * Based on GWT InternalStringMap\n * Copyright
2008 Google Inc.\n */\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * A simple wrapper around JavaScript Map for key type is string.\n * \n * Though this map is instantiated only with
K=String, the K type is not fixed to String statically,\n * because we want to have it erased to Any? in order not to
generate type-safe override bridges for\n * [get], [contains], [remove] etc, if they ever are generated.\n */\ninternal
class InternalStringMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n\n    private var
backingMap: dynamic = createJsMap()\n    override var size: Int = 0\n    private set\n\n    /**\n     * A mod
count to track 'value' replacements in map to ensure that the 'value' that we have in the\n     * iterator entry is
guaranteed to be still correct.\n     * This is to optimize for the common scenario where the values are not modified
during\n     * iterations where the entries are never stale.\n     */\n    private var valueMod: Int = 0\n    override
operator fun contains(key: K): Boolean {\n        if (key !is String) return false\n        return backingMap[key] !==
undefined\n    }\n\n    override operator fun get(key: K): V? {\n        if (key !is String) return null\n        val value =
backingMap[key]\n        return if (value !== undefined) value.unsafeCast<V>() else null\n    }\n\n    override fun
put(key: K, value: V): V? {\n        require(key is String)\n        val oldValue = backingMap[key]\n        backingMap[key] = value\n\n        if (oldValue === undefined) {\n            size++\n\n            structureChanged(host)\n            return null\n        } else {\n            valueMod++\n            return
oldValue.unsafeCast<V>()\n        }\n    }\n\n    override fun remove(key: K): V? {\n        if (key !is String) return
null\n        val value = backingMap[key]\n        if (value !== undefined) {\n            jsDeleteProperty(backingMap,
key)\n            size--\n\n            structureChanged(host)\n            return value.unsafeCast<V>()\n        } else {\n            valueMod++\n            return null\n        }\n    }\n\n    override fun clear() {\n        backingMap = createJsMap()\n        size = 0\n    }\n\n    override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n        return object :
MutableIterator<MutableEntry<K, V>> {\n            private val keys: Array<String> =
js("Object").keys(backingMap)\n            private val iterator = keys.iterator()\n            private var lastKey: String? =
null\n\n            override fun hasNext(): Boolean = iterator.hasNext()\n            override fun next():
MutableEntry<K, V> {\n                val key = iterator.next()\n                lastKey = key\n\n                @Suppress("UNCHECKED_CAST")\n                return newMapEntry(key as K)\n            }\n\n            override
fun remove() {\n                @Suppress("UNCHECKED_CAST")\n                this@InternalStringMap.remove(checkNotNull(lastKey) as K)\n            }\n        }\n\n        private fun
newMapEntry(key: K): MutableEntry<K, V> = object : MutableEntry<K, V> {\n            override val key: K get() =
key\n            override val value: V get() = this@InternalStringMap[key].unsafeCast<V>()\n\n            override fun
setValue(newValue: V): V = this@InternalStringMap.put(key, newValue).unsafeCast<V>()\n\n            override fun
hashCode(): Int = AbstractMap.entryHashCode(this)\n            override fun toString(): String =
AbstractMap.entryToString(this)\n            override fun equals(other: Any?): Boolean = AbstractMap.entryEquals(this,
other)\n        }\n    }\n}\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n * \n * Based on GWT LinkedHashMap\n * Copyright 2008 Google Inc.\n */\npackage
kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based
implementation of the [MutableMap] interface, which additionally preserves the insertion order\n * of entries during
the iteration.\n * \n * The insertion order is preserved by maintaining a doubly-linked list of all of its entries.\n
*/\n\n * \n * The entry we use includes next/prev pointers for a doubly-linked circular\n * list with a head node. This reduces the
special cases we have to deal with\n * in the list operations.\n * \n * Note that we duplicate the key from the
underlying hash map so we can find\n * the eldest entry. The alternative would have been to modify HashMap so

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more
 * of the code was directly usable here, but this would have added some
 * overhead to HashMap, or to reimplement most of the HashMap code here with
 * small modifications. Paying a small storage cost only if you use
 * LinkedHashMap and minimizing code size seemed like a better tradeoff
 *
 private inner class ChainEntry<K, V>(key: K, value: V) : AbstractMutableMap.SimpleEntry<K, V>(key, value) {
 internal var next: ChainEntry<K, V>? = null
 internal var prev: ChainEntry<K, V>? = null
 override fun setValue(newValue: V): V {
 this@LinkedHashMap.checkIsMutable()
 return super.setValue(newValue)
 }
 }
 private inner class EntrySet : AbstractEntrySet<MutableEntry<K, V>, K, V>() {
 private inner class EntryIterator : MutableIterator<MutableEntry<K, V>> {
 // The last entry that was returned from this iterator.
 private var last: ChainEntry<K, V>? = null
 // The next entry to return from this iterator.
 private var next: ChainEntry<K, V>? = null
 init {
 next = head
 recordLastKnownStructure(map, this)
 }
 override fun hasNext(): Boolean {
 return next != null
 }
 override fun next(): MutableEntry<K, V> {
 checkStructuralChange(map, this)
 if (!hasNext()) throw NoSuchElementException()
 val current = next!!
 last = current
 next = current.next.takeIf { it != head }
 return current
 }
 override fun remove() {
 check(last != null)
 this@EntrySet.checkIsMutable()
 checkStructuralChange(map, this)
 last!!.remove()
 map.remove(last!!.key)
 recordLastKnownStructure(map, this)
 last = null
 }
 }
 override fun add(element: MutableEntry<K, V>): Boolean = throw
 UnsupportedOperationException("Add is not supported on entries")
 override fun clear() {
 this@LinkedHashMap.clear()
 }
 override fun containsEntry(element: Map.Entry<K, V>): Boolean =
 this@LinkedHashMap.containsEntry(element)
 override operator fun iterator():
 MutableIterator<MutableEntry<K, V>> = EntryIterator()
 override fun removeEntry(element: Map.Entry<K, V>): Boolean {
 checkIsMutable()
 if (contains(element)) {
 this@LinkedHashMap.remove(element.key)
 return true
 }
 return false
 }
 override val size: Int get() = this@LinkedHashMap.size
 override fun checkIsMutable(): Unit =
 this@LinkedHashMap.checkIsMutable()
 }
 /**
 * The head of the insert order chain, which is a doubly-linked circular
 * list.
 * The most recently inserted node is at the end of the chain, ie.
 * chain.prev.
 */
 private var head: ChainEntry<K, V>? = null
 /**
 * Add this node to the end of the chain.
 */
 private fun ChainEntry<K, V>.addToEnd() {
 // This entry is not in the list.
 check(next == null && prev == null)
 val _head = head
 if (_head == null) {
 head = this
 next = this
 prev = this
 } else {
 // Chain is valid.
 val _tail = checkNotNull(_head.prev)
 // Update me.
 prev = _tail
 next = _head
 // Update my new siblings: current head and old tail
 _head.prev = this
 _tail.next = this
 }
 }
 /**
 * Remove this node from the chain it is a part of.
 */
 private fun ChainEntry<K, V>.remove() {
 if (this.next === this) {
 // if this is single element, remove head
 head = null
 } else {
 if (head === this) {
 // if this is first element, move head to next
 head = next
 }
 next!!.prev = prev
 prev!!.next = next
 }
 next = null
 prev = null
 }
 }
 /**
 * The hashmap that keeps track of our entries and the chain. Note that we
 * duplicate the key here to eliminate changes to HashMap and minimize the
 * code here, at the expense of additional space.
 */
 private val map: HashMap<K, ChainEntry<K, V>>
 private var isReadOnly: Boolean = false
 /**
 * Constructs an empty [LinkedHashMap] instance.
 */
 actual constructor() : super() {
 map = HashMap<K, ChainEntry<K, V>>()
 }
 internal constructor(backingMap: HashMap<K, Any>) : super() {
 @SuppressWarnings("UNCHECKED_CAST") // expected to work due to erasure
 map = backingMap as HashMap<K, ChainEntry<K, V>>
 }
 /**
 * Constructs an empty [LinkedHashMap] instance.
 * @param initialCapacity the initial capacity (ignored)
 * @param loadFactor the load factor (ignored)
 * @throws IllegalArgumentException if the initial capacity or load factor are negative
 */
 actual constructor(initialCapacity: Int, loadFactor: Float) :
 super(initialCapacity, loadFactor) {
 map = HashMap<K, ChainEntry<K, V>>()
 }
 actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)
 /**
 * Constructs an instance of

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[LinkedHashMap] filled with the contents of the specified [original] map.\n  */\n  actual constructor(original:
Map<out K, V>) {\n    map = HashMap<K, ChainEntry<K, V>>()\n    this.putAll(original)\n  }\n\n  @PublishedApi\n  internal fun build(): Map<K, V> {\n    checkIsMutable()\n    isReadOnly = true\n    return this\n  }\n\n  actual override fun clear() {\n    checkIsMutable()\n    map.clear()\n    head = null\n  }\n\n  // override fun clone(): Any {\n//    return LinkedHashMap(this)\n//  }\n\n  actual override fun
containsKey(key: K): Boolean = map.containsKey(key)\n\n  actual override fun containsValue(value: V): Boolean
{\n    var node: ChainEntry<K, V> = head?: return false\n    do {\n      if (node.value == value) {\n
return true\n      }\n      node = node.next!!\n    } while (node != head)\n    return false\n  }\n\n  internal
override fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n  actual
override operator fun get(key: K): V? = map.get(key)?.value\n\n  actual override fun put(key: K, value: V): V? {\n
checkIsMutable()\n    val old = map.get(key)\n    if (old == null) {\n      val newEntry =
ChainEntry(key, value)\n      map.put(key, newEntry)\n      newEntry.addToEnd()\n      return null\n
} else {\n      return old.setValue(value)\n    }\n  }\n\n  actual override fun remove(key: K): V? {\n
checkIsMutable()\n    val entry = map.remove(key)\n    if (entry != null) {\n      entry.remove()\n
return entry.value\n    }\n    return null\n  }\n\n  actual override val size: Int get() = map.size\n\n  internal
override fun checkIsMutable() {\n    if (isReadOnly) throw UnsupportedOperationException()\n  }\n}\n\n/**\n *
Constructs the specialized implementation of [LinkedHashMap] with [String] keys, which stores the keys as
properties of\n * JS object without hashing them.\n */\npublic fun <V> linkedStringMapOf(vararg pairs:
Pair<String, V>): LinkedHashMap<String, V> {\n  return LinkedHashMap<String,
V>(stringMapOf<Any>()).apply { putAll(pairs) }\n}\n\n",/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n/**\n * Based on GWT LinkedHashMap\n * Copyright 2008 Google
Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the [MutableSet] interface, backed by a
[LinkedHashMap] instance.\n */\n * This implementation preserves the insertion order of elements during the
iteration.\n */\npublic actual open class LinkedHashMap<E> : HashSet<E>, MutableSet<E> {\n\n  internal
constructor(map: LinkedHashMap<E, Any>) : super(map)\n\n  /**\n   * Constructs a new empty
[LinkedHashMap].\n   */\n   actual constructor() : super(LinkedHashMap<E, Any>())\n\n  /**\n   * Constructs a
new [LinkedHashMap] filled with the elements of the specified collection.\n   */\n   actual constructor(elements:
Collection<E>) : super(LinkedHashMap<E, Any>()) {\n    addAll(elements)\n  }\n\n  /**\n   * Constructs a
new empty [LinkedHashMap].\n   */\n   * @param initialCapacity the initial capacity (ignored)\n   * @param
loadFactor the load factor (ignored)\n   */\n   * @throws IllegalArgumentException if the initial capacity or
load factor are negative\n   */\n   actual constructor(initialCapacity: Int, loadFactor: Float) :
super(LinkedHashMap<E, Any>(initialCapacity, loadFactor))\n\n  actual constructor(initialCapacity: Int) :
this(initialCapacity, 0.0f)\n\n  @PublishedApi\n  internal fun build(): Set<E> {\n    (map as
LinkedHashMap<E, Any>).build()\n    return this\n  }\n\n  internal override fun checkIsMutable(): Unit =
map.checkIsMutable()\n\n  // public override fun clone(): Any {\n//    return LinkedHashMap(this)\n//
}\n\n}\n\n/**\n * Creates a new instance of the specialized implementation of [LinkedHashSet] with the specified
[String] elements,\n * which elements the keys as properties of JS object without hashing them.\n */\npublic fun
linkedStringSetOf(vararg elements: String): LinkedHashSet<String> {\n  return
LinkedHashSet(linkedStringMapOf<Any>()).apply { addAll(elements) }\n}\n\n",/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.contracts.*\n\n@DeprecatedSinceKotlin(warningSince = "1.6")\n@Deprecated("Synchronization on any
object is not supported in Kotlin/JS")\n\nReplaceWith("run(block)")\n\n@kotlin.internal.InlineOnly\n@Suppress("UNUSED_PARAMETER")\npublic
inline fun <R> synchronized(lock: Any, block: () -> R): R {\n  contract {\n    callsInPlace(block,
InvocationKind.EXACTLY_ONCE)\n  }\n  return block()\n}\n\n",/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that

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can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.io\n\ninternal abstract class BaseOutput {\n
open fun println() {\n    print("\n")\n } \n\n open fun println(message: Any?) {\n    print(message)\n
println()\n } \n\n abstract fun print(message: Any?)\n\n open fun flush() { }\n\n/** JsName used to make the
declaration available outside of module to test it */\n\n@JsName("NodeJsOutput")\n\ninternal class NodeJsOutput(val
outputStream: dynamic) : BaseOutput() {\n    override fun print(message: Any?) {\n        // TODO: Using local
variable because of bug in block decomposition lowering in IR backend\n        val messageString =
String(message)\n        outputStream.write(messageString)\n    } \n\n\n/** JsName used to make the declaration
available outside of module to test it */\n\n@JsName("OutputToConsoleLog")\n\ninternal class OutputToConsoleLog
: BaseOutput() {\n    override fun print(message: Any?) {\n        console.log(message)\n    } \n\n override fun
println(message: Any?) {\n        console.log(message)\n    } \n\n override fun println() {\n        console.log("\n")
}\n\n\n/** JsName used to make the declaration available outside of module to test it and use at try.kotl.in
*/\n\n@JsName("BufferedOutput")\n\ninternal open class BufferedOutput : BaseOutput() {\n    var buffer = ""\n\n
override fun print(message: Any?) {\n        buffer += String(message)\n    } \n\n override fun flush() {\n        buffer
= ""\n    } \n\n\n/** JsName used to make the declaration available outside of module to test it
*/\n\n@JsName("BufferedOutputToConsoleLog")\n\ninternal class BufferedOutputToConsoleLog : BufferedOutput()\n
{\n    override fun print(message: Any?) {\n        var s = String(message)\n        val i = s.nativeLastIndexOf("\n",
0)\n        if (i >= 0) {\n            buffer += s.substring(0, i)\n            flush()\n            s = s.substring(i + 1)\n        }\n
buffer += s\n    } \n\n override fun flush() {\n        console.log(buffer)\n        buffer = ""\n    } \n\n\n/** JsName
used to make the declaration available outside of module to test it and use at try.kotl.in
*/\n\n@JsName("output")\n\ninternal var output = run {\n    val isNode: Boolean = js("typeof process !== 'undefined'
&& process.versions && !process.versions.node")\n    if (isNode) NodeJsOutput(js("process.stdout")) else
BufferedOutputToConsoleLog()\n}\n\n@kotlin.internal.InlineOnly\n\nprivate inline fun String(value: Any?): String =
js("String")(value)\n\n/** Prints the line separator to the standard output stream. */\n\npublic actual fun println() {\n
output.println()\n}\n\n/** Prints the given [message] and the line separator to the standard output stream. */\n\npublic
actual fun println(message: Any?) {\n    output.println(message)\n}\n\n/** Prints the given [message] to the standard
output stream. */\n\npublic actual fun print(message: Any?) {\n
output.print(message)\n}\n\n@SinceKotlin("1.6")\n\npublic actual fun readln(): String = throw
UnsupportedOperationException("readln is not supported in Kotlin/JS")\n\n@SinceKotlin("1.6")\n\npublic actual
fun readlnOrNull(): String? = throw UnsupportedOperationException("readlnOrNull is not supported in
Kotlin/JS"), "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n\n@SinceKotlin("1.3")\n\ninternal
actual class SafeContinuation<in T>\n\ninternal actual constructor(\n    private val delegate: Continuation<T>,\n
initialResult: Any?)\n) : Continuation<T> {\n    @PublishedApi\n    internal actual constructor(delegate:
Continuation<T>) : this(delegate, UNDECIDED)\n\n    public actual override val context: CoroutineContext\n
get() = delegate.context\n\n    private var result: Any? = initialResult\n\n    public actual override fun
resumeWith(result: Result<T>) {\n        val cur = this.result\n        when {\n            cur === UNDECIDED -> {\n
                this.result = result.value\n            }\n            cur === COROUTINE_SUSPENDED -> {\n                this.result =
RESUMED\n                delegate.resumeWith(result)\n            }\n            else -> throw
IllegalStateException("Already resumed")\n        }\n    }\n\n    @PublishedApi\n    internal actual fun
getOrThrow(): Any? {\n        if (result === UNDECIDED) {\n            result = COROUTINE_SUSPENDED\n
return COROUTINE_SUSPENDED\n        }\n        val result = this.result\n        return when {\n            result ===
RESUMED -> COROUTINE_SUSPENDED // already called continuation, indicate COROUTINE_SUSPENDED
upstream\n            result is Result.Failure -> throw result.exception\n            else -> result // either
COROUTINE_SUSPENDED or data\n        }\n    }\n}\n\n\n/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage

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kotlin.coroutines.cancellation\n\n@SinceKotlin("1.4")\npublic actual open class CancellationException :
IllegalStateException {\n    actual constructor() : super()\n    actual constructor(message: String?) : super(message)\n    constructor(message: String?, cause: Throwable?) : super(message, cause)\n    constructor(cause: Throwable?) :
super(cause)\n}", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.coroutines.js.internal\n\nimport kotlin.coroutines.Continuation\n\nimport
kotlin.coroutines.EmptyCoroutineContext\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal val
EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->\n    result.getOrThrow()\n}", /*\n
* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\n/**\n * Exposes the [Date API](https://developer.mozilla.org/en-
US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.\n
*/\n\n@Suppress("NOT_DOCUMENTED")\npublic external class Date() {\n    public constructor(milliseconds:
Number)\n    public constructor(dateString: String)\n    public constructor(year: Int, month: Int)\n    public
constructor(year: Int, month: Int, day: Int)\n    public constructor(year: Int, month: Int, day: Int, hour: Int)\n
    public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)\n    public constructor(year: Int, month:
Int, day: Int, hour: Int, minute: Int, second: Int)\n    public constructor(year: Int, month: Int, day: Int, hour: Int,
minute: Int, second: Int, millisecond: Number)\n    public fun getDate(): Int\n    public fun getDay(): Int\n    public
fun getFullYear(): Int\n    public fun getHours(): Int\n    public fun getMilliseconds(): Int\n    public fun
getMinutes(): Int\n    public fun getMonth(): Int\n    public fun getSeconds(): Int\n    public fun getTime():
Double\n    public fun getTimezoneOffset(): Int\n    public fun getUTCDate(): Int\n    public fun
getUTCDay(): Int\n    public fun getUTCFullYear(): Int\n    public fun getUTCHours(): Int\n    public fun
getUTCMilliseconds(): Int\n    public fun getUTCMinutes(): Int\n    public fun getUTCMonth(): Int\n    public
fun getUTCSeconds(): Int\n    public fun toString(): String\n    public fun toISOString(): String\n    public
fun toJSON(): Json\n    public fun toLocaleDateString(locales: Array<String> = definedExternally, options:
LocaleOptions = definedExternally): String\n    public fun toLocaleDateString(locales: String, options:
LocaleOptions = definedExternally): String\n    public fun toLocaleString(locales: Array<String> =
definedExternally, options: LocaleOptions = definedExternally): String\n    public fun toLocaleString(locales:
String, options: LocaleOptions = definedExternally): String\n    public fun toLocaleTimeString(locales:
Array<String> = definedExternally, options: LocaleOptions = definedExternally): String\n    public fun
toLocaleTimeString(locales: String, options: LocaleOptions = definedExternally): String\n    public fun
toTimeString(): String\n    public fun toUTCString(): String\n    public companion object {\n    public fun
now(): Double\n    public fun parse(dateString: String): Double\n    public fun UTC(year: Int, month: Int):
Double\n    public fun UTC(year: Int, month: Int, day: Int): Double\n    public fun UTC(year: Int, month:
Int, day: Int, hour: Int): Double\n    public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int):
Double\n    public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n    public
fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n
}\n    public interface LocaleOptions {\n    public var localeMatcher: String?\n    public var timeZone:
String?\n    public var hour12: Boolean?\n    public var formatMatcher: String?\n    public var weekday:
String?\n    public var era: String?\n    public var year: String?\n    public var month: String?\n    public
var day: String?\n    public var hour: String?\n    public var minute: String?\n    public var
second: String?\n    public var timeZoneName: String?\n    }\n}\n\npublic inline fun dateLocaleOptions(init:
Date.LocaleOptions.() -> Unit): Date.LocaleOptions {\n    val result = js("new
Object()").unsafeCast<Date.LocaleOptions>()\n    init(result)\n    return result\n}", /*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport
org.w3c.dom.Document\n\nimport org.w3c.dom.Element\n\nimport
kotlin.internal.LowPriorityInOverloadResolution\n\nimport kotlinx.dom.appendElement as

```



```

newAppendElement\nimport kotlin.dom.createElement as newCreateElement\n\n/**\n * Creates a new element
with the specified [name].\n *\n * The element is initialized with the specified [init] function.\n
*/\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package,
use 'kotlinx.dom.createElement' instead.\",\n    replaceWith = ReplaceWith(\"this.createElement(name, init)\",
\"kotlinx.dom.createElement()\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic
inline fun Document.createElement(name: String, noinline init: Element.() -> Unit): Element =
this.newCreateElement(name, init)\n\n/**\n * Appends a newly created element with the specified [name] to this
element.\n *\n * The element is initialized with the specified [init] function.\n
*/\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package,
use 'kotlinx.dom.appendElement' instead.\",\n    replaceWith = ReplaceWith(\"this.appendElement(name, init)\",
\"kotlinx.dom.appendElement()\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic
inline fun Element.appendElement(name: String, noinline init: Element.() -> Unit): Element =
this.newAppendElement(name, init)\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlin.dom.addClass as newAddClass\nimport
kotlin.dom.hasClass as newHasClass\nimport kotlin.dom.removeClass as newRemoveClass\n\n/** Returns true if
the element has the given CSS class style in its 'class' attribute
*/\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package,
use 'kotlinx.dom.hasClass' instead.\",\n    replaceWith = ReplaceWith(\"this.hasClass(cssClass)\",
\"kotlinx.dom.hasClass()\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline fun
Element.hasClass(cssClass: String): Boolean = this.newHasClass(cssClass)\n\n/**\n * Adds CSS class to element.
Has no effect if all specified classes are already in class attribute of the element\n *\n * @return true if at least one
class has been added\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved
to another package, use 'kotlinx.dom.addClass' instead.\",\n    replaceWith =
ReplaceWith(\"this.addClass(cssClasses)\", \"kotlinx.dom.addClass()\")\n)\n@DeprecatedSinceKotlin(warningSince
= \"1.4\", errorSince = \"1.6\")\ninline fun Element.addClass(vararg cssClasses: String): Boolean =
this.newAddClass(*cssClasses)\n\n/**\n * Removes all [cssClasses] from element. Has no effect if all specified
classes are missing in class attribute of the element\n *\n * @return true if at least one class has been removed\n
*/\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to another package,
use 'kotlinx.dom.removeClass' instead.\",\n    replaceWith = ReplaceWith(\"this.removeClass(cssClasses)\",
\"kotlinx.dom.removeClass()\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\ninline
fun Element.removeClass(vararg cssClasses: String): Boolean = this.newRemoveClass(*cssClasses)\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport
kotlin.internal.LowPriorityInOverloadResolution\nimport kotlin.dom.isElement as newIsElement\nimport
kotlin.dom.isText as newIsText\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a
CDATA_SECTION_NODE.\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API
is moved to another package, use 'kotlinx.dom.isText' instead.\",\n    replaceWith = ReplaceWith(\"this.isText\",
\"kotlinx.dom.isText()\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic val
Node.isText: Boolean\n    inline get() = this.newIsText\n\n/**\n * Gets a value indicating whether this node is an
[Element].\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = \"This API is moved to
another package, use 'kotlinx.dom.isElement' instead.\",\n    replaceWith = ReplaceWith(\"this.isElement\",
\"kotlinx.dom.isElement()\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\", errorSince = \"1.6\")\npublic val
Node.isElement: Boolean\n    inline get() = this.newIsElement\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom.events\n\npublic fun

```

```

EventListener(handler: (Event) -> Unit): EventListener = EventListenerHandler(handler)\n\nprivate class
EventListenerHandler(private val handler: (Event) -> Unit) : EventListener {\n    public override fun
handleEvent(event: Event) {\n        handler(event)\n    }\n    public override fun toString(): String =
`"EventListenerHandler($handler)"\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\npublic external interface ItemArrayLike<out T> {\n
val length: Int\n    fun item(index: Int): T?\n}\n\n/**\n * Returns the view of this `ItemArrayLike<T>` collection as
`List<T>`\n */\n\npublic fun <T> ItemArrayLike<T>.asList(): List<T> = object : AbstractList<T>() {\n    override val
size: Int get() = this@asList.length\n\n    override fun get(index: Int): T = when (index) {\n        in 0..lastIndex ->
this@asList.item(index).unsafeCast<T>()\n        else -> throw IndexOutOfBoundsException("index $index is not in
range [0..$lastIndex]")\n    }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport
org.w3c.dom.Node\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport kotlin.dom.appendText as
newAppendText\nimport kotlin.dom.clear as newClear\n\n/** Removes all the children from this node.\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = `This API is moved to another package,
use 'kotlinx.dom.clear' instead.`,\n    replaceWith = ReplaceWith(`this.clear()`),\n    `kotlinx.dom.clear`\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\n\npublic inline fun
Node.clear() = this.newClear()\n\n/**\n * Creates text node and append it to the element.\n */\n\n * @return this
element\n */\n\n@LowPriorityInOverloadResolution\n@Deprecated(\n    message = `This API is moved to another
package, use 'kotlinx.dom.appendText' instead.`,\n    replaceWith = ReplaceWith(`this.appendText(text)`),\n    `kotlinx.dom.appendText`\n)\n\n@DeprecatedSinceKotlin(warningSince = `1.4`, errorSince = `1.6`)\n\ninline fun
Element.appendText(text: String): Element = this.newAppendText(text)\n\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Reinterprets this value
as a value of the [dynamic type](/docs/reference/dynamic-type.html).\n */\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun Any?.asDynamic(): dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T]
without any actual type checking.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> Any?.unsafeCast():
@kotlin.internal.NoInfer T = this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of the
specified type [T] without any actual type checking.\n */\n\n@kotlin.internal.DynamicExtension\n\n@JsName(`unsafeCastDynamic`)\n\n@kotlin.internal.InlineOnly\n\npublic
inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic`
object in the following cases:\n * - when it has an `iterator` function,\n * - when it is an array\n * - when it is an
instance of [kotlin.collections.Iterable]\n */\n\n@kotlin.internal.DynamicExtension\n\npublic operator fun
dynamic.iterator(): Iterator<dynamic> {\n    val r: Any? = this\n\n    return when {\n        this[`iterator`] != null ->
this[`iterator`]()\n        isArrayish(r) -> r.unsafeCast<Array<*>>().iterator()\n        else -> (r as
Iterable<*>).iterator()\n    }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the
module\n\n@JsName(`throwNPE`)\n\ninternal fun throwNPE(message: String) {\n    throw
NullPointerException(message)\n}\n\n@JsName(`throwCCE`)\n\ninternal fun throwCCE() {\n    throw
ClassCastException(`Illegal cast`)\n}\n\n@JsName(`throwISE`)\n\ninternal fun throwISE(message: String) {\n
throw IllegalStateException(message)\n}\n\n@JsName(`throwUPAE`)\n\ninternal fun throwUPAE(propertyName:
String) {\n    throw UninitializedPropertyAccessException(`lateinit property ${propertyName} has not been
initialized`)\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\n/**\n * Groups elements from the [Grouping] source by key and counts elements
in each group.\n */\n\n * @return a [Map] associating the key of each group with the count of elements in the group.\n

```

```

*\n * @sample samples.collections.Grouping.groupingByEachCount\n *\n@SinceKotlin("1.1")\npublic actual fun
<T, K> Grouping<T, K>.eachCount(): Map<K, Int> =\n    fold(0) { acc, _ -> acc + 1 }\n\n/>\n/>\n/>\n/>\n * Groups
elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements
in each group.\n *\n * @return a [Map] associating the key of each group with the count of element in the group.\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K> Grouping<T, K>.eachSumOf(valueSelector: (T) -> Int):
Map<K, Int> =\n    fold(0) { acc, e -> acc + valueSelector(e) }\n\n"/\n"/\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmName("GroupingKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.collections\n\n/>\n/>\n * Represents a source of elements with a [keyOf] function, which can be applied to each
element to get its key.\n *\n * A [Grouping] structure serves as an intermediate step in group-and-fold operations:\n
* they group elements by their keys and then fold each group with some aggregating operation.\n *\n * It is created
by attaching `keySelector: (T) -> K` function to a source of elements.\n * To get an instance of [Grouping] use one
of `groupingBy` extension functions:\n * - [Iterable.groupingBy]\n * - [Sequence.groupingBy]\n * -
[Array.groupingBy]\n * - [CharSequence.groupingBy]\n *\n * For the list of group-and-fold operations available,
see the [extension functions](#extension-functions) for `Grouping`.\n *\n@SinceKotlin("1.1")\npublic interface
Grouping<T, out K> {\n    /** Returns an [Iterator] over the elements of the source of this grouping. *\n    fun
sourceIterator(): Iterator<T>\n    /** Extracts the key of an [element]. *\n    fun keyOf(element: T): K}\n\n/>\n/>\n *
Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group
sequentially,\n * passing the previously accumulated value, and the current element as arguments, and stores the
results in a new map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n *
@param operation function is invoked on each element with the following parameters:\n * - `key`: the key of the
group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null`
if it's the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n
* - `first`: indicates whether it's the first `element` encountered in the group.\n *\n * @return a [Map] associating
the key of each group with the result of aggregation of the group elements.\n *\n * @sample
samples.collections.Grouping.aggregateByRadix\n *\n@SinceKotlin("1.1")\npublic inline fun <T, K, R>
Grouping<T, K>.aggregate(\n    operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): Map<K,
R> {\n    return aggregateTo(mutableMapOf<K, R>(), operation)\n}\n\n/>\n/>\n * Groups elements from the
[Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the
previously accumulated value and the current element as arguments,\n * and stores the results in the given
[destination] map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param
operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null` if it's
the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n * -
`first`: indicates whether it's the first `element` encountered in the group.\n *\n * If the [destination] map already has
a value corresponding to some key,\n * then the elements being aggregated for that key are never considered as
`first`.\n *\n * @return the [destination] map associating the key of each group with the result of aggregation of the
group elements.\n *\n * @sample samples.collections.Grouping.aggregateByRadixTo\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T,
K>.aggregateTo(\n    destination: M,\n    operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): M
{\n    for (e in this.sourceIterator()) {\n        val key = keyOf(e)\n        val accumulator = destination[key]\n
destination[key] = operation(key, accumulator, e, accumulator == null && !destination.containsKey(key))\n    }\n
return destination\n}\n\n/>\n/>\n * Groups elements from the [Grouping] source by key and applies [operation] to the
elements of each group sequentially,\n * passing the previously accumulated value and the current element as
arguments, and stores the results in a new map.\n * An initial value of accumulator is provided by
[initialValueSelector] function.\n *\n * @param initialValueSelector a function that provides an initial value of
accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the group;\n * - `element`: the

```

first element being encountered in that group.

`* @param operation` a function that is invoked on each element with the following parameters:

- `* - `key``: the key of the group this element belongs to;
- `* - `accumulator``: the current value of the accumulator of the group;
- `* - `element``: the element from the source being accumulated.

`* @return` a [Map] associating the key of each group with the result of accumulating the group elements.

`@sample` samples.collections.Grouping.foldByEvenLengthWithComputedInitialValue

```
*\n@SinceKotlin("1.1")\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n    initialValueSelector: (key: K,\n    element: T) -> R,\n    operation: (key: K, accumulator: R, element: T) -> R\n): Map<K, R> =\n    @Suppress("UNCHECKED_CAST")\n    aggregate { key, acc, e, first -> operation(key, if (first)\n    initialValueSelector(key, e) else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and\n    applies [operation] to the elements of each group sequentially,\n    * passing the previously accumulated value and the\n    current element as arguments,\n    * and stores the results in the given [destination] map.\n    * An initial value of\n    accumulator is provided by [initialValueSelector] function.\n    * @param initialValueSelector a function that\n    provides an initial value of accumulator for each group.\n    * It's invoked with parameters:\n    * - `key` : the key of the\n    group;\n    * - `element` : the first element being encountered in that group.\n    * If the [destination] map already has\n    a value corresponding to some key, that value is used as an initial value of\n    * the accumulator for that group and the\n    [initialValueSelector] function is not called for that group.\n    * @param operation a function that is invoked on\n    each element with the following parameters:\n    * - `key` : the key of the group this element belongs to;\n    * -\n    `accumulator` : the current value of the accumulator of the group;\n    * - `element` : the element from the source being\n    accumulated.\n    * @return the [destination] map associating the key of each group with the result of\n    accumulating the group elements.\n    * @sample\n    samples.collections.Grouping.foldByEvenLengthWithComputedInitialValueTo\n    *\n@SinceKotlin("1.1")\npublic\n    inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n    destination: M,\n    initialValueSelector: (key: K, element: T) -> R,\n    operation: (key: K, accumulator: R, element: T) -> R\n): M =\n    @Suppress("UNCHECKED_CAST")\n    aggregateTo(destination) { key, acc, e, first -> operation(key, if (first)\n    initialValueSelector(key, e) else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and\n    applies [operation] to the elements of each group sequentially,\n    * passing the previously accumulated value and the\n    current element as arguments, and stores the results in a new map.\n    * An initial value of accumulator is the same\n    [initialValue] for each group.\n    * @param operation a function that is invoked on each element with the\n    following parameters:\n    * - `accumulator` : the current value of the accumulator of the group;\n    * - `element` : the\n    element from the source being accumulated.\n    * @return a [Map] associating the key of each group with the\n    result of accumulating the group elements.\n    * @sample\n    samples.collections.Grouping.foldByEvenLengthWithConstantInitialValue\n    *\n@SinceKotlin("1.1")\npublic\n    inline fun <T, K, R> Grouping<T, K>.fold(\n    initialValue: R,\n    operation: (accumulator: R, element: T) -> R\n): Map<K, R> =\n    @Suppress("UNCHECKED_CAST")\n    aggregate { _, acc, e, first -> operation(if (first)\n    initialValue else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies\n    [operation] to the elements of each group sequentially,\n    * passing the previously accumulated value and the current\n    element as arguments,\n    * and stores the results in the given [destination] map.\n    * An initial value of accumulator is\n    the same [initialValue] for each group.\n    * If the [destination] map already has a value corresponding to the key\n    of some group,\n    * that value is used as an initial value of the accumulator for that group.\n    * @param operation\n    a function that is invoked on each element with the following parameters:\n    * - `accumulator` : the current value of\n    the accumulator of the group;\n    * - `element` : the element from the source being accumulated.\n    * @return the\n    [destination] map associating the key of each group with the result of accumulating the group elements.\n    * @sample\n    samples.collections.Grouping.foldByEvenLengthWithConstantInitialValueTo\n    *\n@SinceKotlin("1.1")\npublic\n    inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n    destination: M,\n    initialValue: R,\n    operation: (accumulator: R, element: T) -> R\n): M =\n    @Suppress("UNCHECKED_CAST")\n    aggregateTo(destination) { _, acc, e, first -> operation(if (first)\n    initialValue else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies the\n    reducing [operation] to the elements of each group\n    * sequentially starting from the second element of the group,\n    \n
```

```

* passing the previously accumulated value and the current element as arguments,\n * and stores the results in a new
map.\n * An initial value of accumulator is the first element of the group.\n * @param operation a function that
is invoked on each subsequent element of the group with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the
element from the source being accumulated.\n * @return a [Map] associating the key of each group with the
result of accumulating the group elements.\n * @sample samples.collections.Grouping.reduceByMaxVowels\n
*\n@SinceKotlin("1.1")\npublic inline fun <S, T : S, K> Grouping<T, K>.reduce(\n operation: (key: K,
accumulator: S, element: T) -> S)\n): Map<K, S> =\n aggregate { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n }\n\n/**\n * Groups
elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n *
sequentially starting from the second element of the group,\n * passing the previously accumulated value and the
current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of
accumulator is the first element of the group.\n * If the [destination] map already has a value corresponding to
the key of some group,\n * that value is used as an initial value of the accumulator for that group and the first
element of that group is also\n * subjected to the [operation].\n * @param operation a function that is invoked on
each subsequent element of the group with the following parameters:\n * - `accumulator`: the current value of the
accumulator of the group;\n * - `element`: the element from the source being folded;\n * @return the
[destination] map associating the key of each group with the result of accumulating the group elements.\n *
@sample samples.collections.Grouping.reduceByMaxVowelsTo\n
*\n@SinceKotlin("1.1")\npublic inline fun <S,
T : S, K, M : MutableMap<in K, S>> Grouping<T, K>.reduceTo(\n destination: M,\n operation: (key: K,
accumulator: S, element: T) -> S)\n): M =\n aggregateTo(destination) { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n }\n\n/**\n * Groups
elements from the [Grouping] source by key and counts elements in each group to the given [destination] map.\n *
If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an
initial value of the counter for that group.\n * @return the [destination] map associating the key of each group
with the count of elements in the group.\n * @sample samples.collections.Grouping.groupingByEachCount\n
*\n@SinceKotlin("1.1")\npublic fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachCountTo(destination: M): M =\n foldTo(destination, 0) { acc, _ -> acc + 1 }\n\n/**\n * Groups
elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements
in each group\n * to the given [destination] map.\n * If the [destination] map already has a value
corresponding to the key of some group,\n * that value is used as an initial value of the sum for that group.\n *
@return the [destination] map associating the key of each group with the sum of elements in the group.\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachSumOfTo(destination: M, valueSelector: (T) -> Int): M =\n foldTo(destination, 0) { acc, e -> acc +
valueSelector(e) }\n\n/**\n * TODO: sum by long and by double overloads\n\npublic inline fun <T, K, M :
MutableMap<in K, Long>> Grouping<T, K>.sumEachByLongTo(destination: M, valueSelector: (T) -> Long): M
=\n foldTo(destination, 0L) { acc, e -> acc + valueSelector(e) }\n\npublic inline fun <T, K> Grouping<T,
K>.sumEachByLong(valueSelector: (T) -> Long): Map<K, Long> =\n fold(0L) { acc, e -> acc +
valueSelector(e) }\n\npublic inline fun <T, K, M : MutableMap<in K, Double>> Grouping<T,
K>.sumEachByDoubleTo(destination: M, valueSelector: (T) -> Double): M =\n foldTo(destination, 0.0) { acc, e
-> acc + valueSelector(e) }\n\npublic inline fun <T, K> Grouping<T, K>.sumEachByDouble(valueSelector: (T) ->
Double): Map<K, Double> =\n fold(0.0) { acc, e -> acc + valueSelector(e) }\n\n"/*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.FUNCTION,
AnnotationTarget.PROPERTY)\ninternal annotation class JsNativeImplementation(val implementation:
String)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

```

```

*\n\npackage kotlin.js\n\n/**\n * An interface for indexing access to a collection of key-value pairs, where type of
key is [String] and type of value is [Any?][Any].\n */\n\npublic external interface Json {\n    /**\n     * Calls to the
function will be translated to indexing operation (square brackets) on the receiver with [propertyName] as the
argument.\n     *\n     * E.g. for next code:\n     * ```kotlin\n     * fun test(j: Json, p: String) = j["prop"] + j.get(p)\n     * ```\n     *\n     * will be generated:\n     * ```js\n     * function test(j, p) {\n     *     return j["prop"] + j[p];\n     * }\n     * ```\n     *\n     * operator fun get(propertyName: String): Any?\n */\n\n    /**\n     * Calls of the function will be
translated to an assignment of [value] to the receiver indexed (with square brackets/index operation) with
[propertyName].\n     *\n     * E.g. for the following code:\n     * ```kotlin\n     * fun test(j: Json, p: String, newValue:
Any) {\n     *     j["prop"] = 1\n     *     j.set(p, newValue)\n     * }\n     * ```\n     *\n     * will be generated:\n     *
```js\n     * function test(j, p, newValue) {\n     *     j["prop"] = 1;\n     *     j[p] = newValue;\n     * }\n     * }\n     *
`\n     *\n     * operator fun set(propertyName: String, value: Any?): Unit\n */\n\n    /**\n     * Returns a simple JavaScript
object (as [Json]) using provided key-value pairs as names and values of its properties.\n     */\n\n    public fun json(vararg
pairs: Pair<String, Any?>): Json {\n        val res: dynamic = js("{}")\n        for ((name, value) in pairs) {\n
            res[name] = value\n        }\n        return res\n    }\n\n    /**\n     * Adds key-value pairs from [other] to [this].\n     * Returns the
original receiver.\n     */\n\n    public fun Json.add(other: Json): Json {\n        val keys: Array<String> =
js("Object").keys(other)\n        for (key in keys) {\n            if (other.asDynamic().hasOwnProperty(key)) {\n
                this[key] = other[key];\n            }\n        }\n        return this\n    }\n\n    /**\n     * Exposes the JavaScript [JSON
object](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/JSON) to Kotlin.\n     */\n\n    @Suppress("NOT_DOCUMENTED")\n    public external object JSON {\n        public fun stringify(o: Any?):
String\n        public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?): String\n        public fun
stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: Int): String\n        public
fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: String): String\n
        public fun stringify(o: Any?, replacer: Array<String>): String\n        public fun stringify(o: Any?, replacer:
Array<String>, space: Int): String\n        public fun stringify(o: Any?, replacer: Array<String>, space: String):
String\n\n        public fun <T> parse(text: String): T\n        public fun <T> parse(text: String, reviver: ((key: String, value:
Any?) -> Any?): T)\n    }\n\n    /**\n     * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n     * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n     */\n\n    package kotlin.math\n\n    import kotlin.internal.InlineOnly\n    import kotlin.js.JsMath
as nativeMath\n\n    // region ===== Double Math\n    =====\n\n    /**\n     * Computes the sine of the angle [x] given in
radians.\n     *\n     * Special cases:\n     * - `sin(NaN|+Inf|-Inf)` is `NaN`\n     */\n\n    @SinceKotlin("1.2")\n    @InlineOnly\n    public actual inline fun sin(x: Double): Double =
nativeMath.sin(x)\n\n    /**\n     * Computes the cosine of the angle [x] given in radians.\n     *\n     * Special cases:\n     * -
`cos(NaN|+Inf|-Inf)` is `NaN`\n     */\n\n    @SinceKotlin("1.2")\n    @InlineOnly\n    public actual inline fun cos(x: Double):
Double = nativeMath.cos(x)\n\n    /**\n     * Computes the tangent of the angle [x] given in radians.\n     *\n     * Special cases:\n     *
- `tan(NaN|+Inf|-Inf)` is `NaN`\n     */\n\n    @SinceKotlin("1.2")\n    @InlineOnly\n    public actual inline fun tan(x:
Double): Double = nativeMath.tan(x)\n\n    /**\n     * Computes the arc sine of the value [x];\n     * the returned value is an
angle in the range from `-PI/2` to `PI/2` radians.\n     *\n     * Special cases:\n     * - `asin(x)` is `NaN`, when `abs(x) > 1`
or x is `NaN`\n     */\n\n    @SinceKotlin("1.2")\n    @InlineOnly\n    public actual inline fun asin(x: Double): Double =
nativeMath.asin(x)\n\n    /**\n     * Computes the arc cosine of the value [x];\n     * the returned value is an angle in the
range from `0.0` to `PI` radians.\n     *\n     * Special cases:\n     * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n     */\n\n    @SinceKotlin("1.2")\n    @InlineOnly\n    public actual inline fun acos(x: Double): Double =
nativeMath.acos(x)\n\n    /**\n     * Computes the arc tangent of the value [x];\n     * the returned value is an angle in the
range from `-PI/2` to `PI/2` radians.\n     *\n     * Special cases:\n     * - `atan(NaN)` is `NaN`\n     */\n\n    @SinceKotlin("1.2")\n    @InlineOnly\n    public actual inline fun atan(x: Double): Double =
nativeMath.atan(x)\n\n    /**\n     * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n     * to the
rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x];\n     * the returned value is an angle
in the range from `-PI` to `PI` radians.\n     *\n     * Special cases:\n     * - `atan2(0.0, 0.0)` is `0.0`\n     * - `atan2(0.0, x)` is

```

$0.0$  for  $x > 0$  and  $\text{PI}$  for  $x < 0$ .  
 $\text{atan2}(-0.0, x)$  is  $-0.0$  for  $x > 0$  and  $-\text{PI}$  for  $x < 0$ .  
 $\text{atan2}(y, +\text{Inf})$  is  $0.0$  for  $0 < y < +\text{Inf}$  and  $-0.0$  for  $-\text{Inf} < y < 0$ .  
 $\text{atan2}(y, -\text{Inf})$  is  $\text{PI}$  for  $0 < y < +\text{Inf}$  and  $-\text{PI}$  for  $-\text{Inf} < y < 0$ .  
 $\text{atan2}(y, 0.0)$  is  $\text{PI}/2$  for  $y > 0$  and  $-\text{PI}/2$  for  $y < 0$ .  
 $\text{atan2}(+\text{Inf}, x)$  is  $\text{PI}/2$  for finite  $x$ .  
 $\text{atan2}(-\text{Inf}, x)$  is  $-\text{PI}/2$  for finite  $x$ .  
 $\text{atan2}(\text{NaN}, x)$  and  $\text{atan2}(y, \text{NaN})$  is  $\text{NaN}$ .

```

* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun atan2(y: Double, x: Double): Double =
  nativeMath.atan2(y, x) /n /n ** /n * Computes the hyperbolic sine of the value [x]. /n * /n * Special cases: /n * -
  `sinh(NaN)` is `NaN` /n * - `sinh(+Inf)` is `+Inf` /n * - `sinh(-Inf)` is `-Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun sinh(x: Double): Double =
  nativeMath.sinh(x) /n /n ** /n * Computes the hyperbolic cosine of the value [x]. /n * /n * Special cases: /n * -
  `cosh(NaN)` is `NaN` /n * - `cosh(+Inf|-Inf)` is `+Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual
  inline fun cosh(x: Double): Double = nativeMath.cosh(x) /n /n ** /n * Computes the hyperbolic tangent of the value
  [x]. /n * /n * Special cases: /n * - `tanh(NaN)` is `NaN` /n * - `tanh(+Inf)` is `1.0` /n * - `tanh(-Inf)` is `-1.0` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun tanh(x: Double): Double =
  nativeMath.tanh(x) /n /n ** /n * Computes the inverse hyperbolic sine of the value [x]. /n * /n * The returned value is
  `y` such that `sinh(y) == x`. /n * /n * Special cases: /n * - `asinh(NaN)` is `NaN` /n * - `asinh(+Inf)` is `+Inf` /n * -
  `asinh(-Inf)` is `-Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun asinh(x: Double): Double
  = nativeMath.asinh(x) /n /n ** /n * Computes the inverse hyperbolic cosine of the value [x]. /n * /n * The returned
  value is positive `y` such that `cosh(y) == x`. /n * /n * Special cases: /n * - `acosh(NaN)` is `NaN` /n * - `acosh(x)`
  is `NaN` when `x < 1` /n * - `acosh(+Inf)` is `+Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline
  fun acosh(x: Double): Double = nativeMath.acosh(x) /n /n ** /n * Computes the inverse hyperbolic tangent of the
  value [x]. /n * /n * The returned value is `y` such that `tanh(y) == x`. /n * /n * Special cases: /n * - `tanh(NaN)` is
  `NaN` /n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1` /n * - `tanh(1.0)` is `+Inf` /n * - `tanh(-1.0)` is `-Inf` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun atanh(x: Double): Double =
  nativeMath.atanh(x) /n /n ** /n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow. /n * /n *
  Special cases: /n * - returns `+Inf` if any of arguments is infinite /n * - returns `NaN` if any of arguments is `NaN`
  and the other is not infinite /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun hypot(x: Double, y:
  Double): Double = nativeMath.hypot(x, y) /n /n ** /n * Computes the positive square root of the value [x]. /n * /n *
  Special cases: /n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun sqrt(x: Double): Double =
  nativeMath.sqrt(x) /n /n ** /n * Computes Euler's number `e` raised to the power of the value [x]. /n * /n * Special
  cases: /n * - `exp(NaN)` is `NaN` /n * - `exp(+Inf)` is `+Inf` /n * - `exp(-Inf)` is `0.0` /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun exp(x: Double): Double =
  nativeMath.exp(x) /n /n ** /n * Computes `exp(x) - 1`. /n * /n * This function can be implemented to produce more
  precise result for [x] near zero. /n * /n * Special cases: /n * - `expm1(NaN)` is `NaN` /n * - `expm1(+Inf)` is `+Inf` /n
  * - `expm1(-Inf)` is  $-1.0$  /n * @see [exp] function. /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual
  inline fun expm1(x: Double): Double = nativeMath.expm1(x) /n /n ** /n * Computes the logarithm of the value [x] to
  the given [base]. /n * /n * Special cases: /n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN` /n * - `log(x, b)` is
  `NaN` when `x < 0` or `b <= 0` or `b == 1.0` /n * - `log(+Inf, +Inf)` is `NaN` /n * - `log(+Inf, b)` is `+Inf` for `b >
  1` and  $-\text{Inf}$  for  $b < 1$  /n * - `log(0.0, b)` is  $-\text{Inf}$  for  $b > 1$  and  $+\text{Inf}$  for  $b > 1$  /n * See also logarithm
  functions for common fixed bases: [ln], [log10] and [log2]. /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual fun log(x:
  Double, base: Double): Double { /n   if (base <= 0.0 || base == 1.0) return Double.NaN /n   return nativeMath.log(x)
  / nativeMath.log(base) /n } /n /n ** /n * Computes the natural logarithm (base `E`) of the value [x]. /n * /n * Special
  cases: /n * - `ln(NaN)` is `NaN` /n * - `ln(x)` is `NaN` when `x < 0.0` /n * - `ln(+Inf)` is `+Inf` /n * - `ln(0.0)` is  $-\text{Inf}$  /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun ln(x: Double): Double =
  nativeMath.log(x) /n /n ** /n * Computes the common logarithm (base 10) of the value [x]. /n * /n * @see [ln] function
  for special cases. /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun log10(x: Double): Double =
  nativeMath.log10(x) /n /n ** /n * Computes the binary logarithm (base 2) of the value [x]. /n * /n * @see [ln] function
  for special cases. /n
* /n @SinceKotlin("1.2") /n @InlineOnly /n public actual inline fun log2(x: Double): Double =
  
```

```

nativeMath.log2(x)\n\n/**\n * Computes  $\ln(x + 1)$ . \n * This function can be implemented to produce more
precise result for [x] near zero.\n * Special cases:\n * -  $\ln(\text{NaN})$  is  $\text{NaN}$ \n * -  $\ln(\text{p}(x))$  is  $\text{NaN}$  where  $x$ 
< -1.0\`n * -  $\ln(\text{p}(-1.0))$  is  $-\text{Inf}$ \n * -  $\ln(\text{p}(+\text{Inf}))$  is  $+\text{Inf}$ \n * @see [ln] function\n * @see [expm1]
function\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ln1p(x: Double): Double =
nativeMath.log1p(x)\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n * @return the
smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.\n *
Special cases:\n * -  $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.\n
*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ceil(x: Double): Double =
nativeMath.ceil(x)\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n * @return the
largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.\n *
Special cases:\n * -  $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.\n
*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun floor(x: Double): Double =
nativeMath.floor(x)\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n * @return the value [x]
having its fractional part truncated.\n * Special cases:\n * -  $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$ 
or already a mathematical integer.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun
truncate(x: Double): Double = nativeMath.trunc(x)\n\n/**\n * Rounds the given value [x] towards the closest integer
with ties rounded towards even integer.\n * Special cases:\n * -  $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or
 $-\text{Inf}$  or already a mathematical integer.\n */\n@SinceKotlin("1.2")\npublic actual fun round(x: Double): Double
{\n    if (x % 0.5 != 0.0) {\n        return nativeMath.round(x)\n    }\n    val floor = floor(x)\n    return if (floor % 2 ==
0.0) floor else ceil(x)\n}\n\n/**\n * Returns the absolute value of the given value [x].\n * Special cases:\n * -
 $\text{abs}(\text{NaN})$  is  $\text{NaN}$ \n * @see absoluteValue extension property for [Double]\n
*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun abs(x: Double): Double =
nativeMath.abs(x)\n\n/**\n * Returns the sign of the given value [x]:\n * -  $-1.0$  if the value is negative,\n * - zero
if the value is zero,\n * -  $1.0$  if the value is positive\n * Special case:\n * -  $\text{sign}(\text{NaN})$  is  $\text{NaN}$ \n
*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sign(x: Double): Double =
nativeMath.sign(x)\n\n/**\n * Returns the smaller of two values.\n * Special cases:\n * - If either value is  $\text{NaN}$ , then the result is
 $\text{NaN}$ . \n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun min(a: Double, b: Double): Double =
nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n * Special cases:\n * - If either value is  $\text{NaN}$ , then the result is
 $\text{NaN}$ . \n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun max(a: Double, b: Double): Double =
nativeMath.max(a, b)\n\n// extensions\n\n/**\n * Raises this value to the power [x].\n * Special cases:\n * -
 $\text{b.pow}(0.0)$  is  $1.0$ \n * -  $\text{b.pow}(1.0) == b$ \n * -  $\text{b.pow}(\text{NaN})$  is  $\text{NaN}$ \n * -  $\text{NaN.pow}(x)$  is  $\text{NaN}$  for  $x !=
0.0$ \n * -  $\text{b.pow}(\text{Inf})$  is  $\text{NaN}$  for  $\text{abs}(b) == 1.0$ \n * -  $\text{b.pow}(x)$  is  $\text{NaN}$  for  $b < 0$  and  $x$  is finite and not
an integer\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(x: Double): Double =
nativeMath.pow(this, x)\n\n/**\n * Raises this value to the integer power [n].\n * Special cases:\n * - See the other overload of
[pow] for details.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.pow(n: Int): Double
= nativeMath.pow(this, n.toDouble())\n\n/**\n * Returns the absolute value of this value.\n * Special cases:\n *
-  $\text{NaN.absoluteValue}$  is  $\text{NaN}$ \n * @see abs function\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic
actual inline val Double.absoluteValue: Double get() = nativeMath.abs(this)\n\n/**\n * Returns the sign of this
value:\n * -  $-1.0$  if the value is negative,\n * - zero if the value is zero,\n * -  $1.0$  if the value is positive\n *
Special case:\n * -  $\text{NaN.sign}$  is  $\text{NaN}$ \n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val
Double.sign: Double get() = nativeMath.sign(this)\n\n/**\n * Returns this value with the sign bit same as of the
[sign] value.\n */\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Double.withSign(sign: Int):
Double = this.withSign(sign.toDouble())\n\n/**\n * Returns the ulp (unit in the last place) of this value.\n * An
ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.\n * Special
Cases:\n * -  $\text{NaN.ulp}$  is  $\text{NaN}$ \n * -  $x.ulp$  is  $+\text{Inf}$  when  $x$  is  $+\text{Inf}$  or  $-\text{Inf}$ \n * -  $0.0.ulp$  is
 $\text{Double.MIN\_VALUE}$ \n */\n@SinceKotlin("1.2")\npublic actual val Double.ulp: Double get() = when {\n    this
< 0 -> (-this).ulp\n    this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n    this ==
Double.MAX\_VALUE -> this - this.nextDown()\n    else -> this.nextUp() - this\n}\n\n/**\n * Returns the [Double]

```



value nearest to this value in direction of positive infinity.

```

@SinceKotlin("1.2")
public actual fun
Double.nextUp(): Double = when {
    this.isNaN() || this == Double.POSITIVE_INFINITY -> this
    this == 0.0 -> Double.MIN_VALUE
    else -> Double.fromBits(this.toRawBits() + if (this > 0) 1 else -1)
}
Returns the [Double] value nearest to this value in direction of negative infinity.

```

```

@SinceKotlin("1.2")
public actual fun Double.nextDown(): Double = when {
    this.isNaN() || this ==
Double.NEGATIVE_INFINITY -> this
    this == 0.0 -> -Double.MIN_VALUE
    else ->
Double.fromBits(this.toRawBits() + if (this > 0) -1 else 1)
}
Returns the [Double] value nearest to this
value in direction from this value towards the value [to].
Special cases:
- `x.nextTowards(y)` is `NaN` if
either `x` or `y` are `NaN`
- `x.nextTowards(x) == x`

```

```

@SinceKotlin("1.2")
public actual fun
Double.nextTowards(to: Double): Double = when {
    this.isNaN() || to.isNaN() -> Double.NaN
    to == this ->
to
    to > this -> this.nextUp()
    else /* to < this */ -> this.nextDown()
}
Rounds this [Double]
value to the nearest integer and converts the result to [Int].
Ties are rounded towards positive infinity.
Special cases:
- `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`
- `x.roundToInt()
== Int.MIN_VALUE` when `x < Int.MIN_VALUE`
@throws IllegalArgumentException when this value is
`NaN`

```

```

@SinceKotlin("1.2")
public actual fun Double.roundToInt(): Int = when {
    isNaN() -> throw
IllegalArgumentException("Cannot round NaN value.")
    this > Int.MAX_VALUE -> Int.MAX_VALUE
    this < Int.MIN_VALUE -> Int.MIN_VALUE
    else -> nativeMath.round(this).toInt()
}
Rounds this
[Double] value to the nearest integer and converts the result to [Long].
Ties are rounded towards positive
infinity.
Special cases:
- `x.roundToLong() == Long.MAX_VALUE` when `x >
Long.MAX_VALUE`
- `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`
@throws IllegalArgumentException when this value is `NaN`

```

```

@SinceKotlin("1.2")
public actual fun
Double.roundToLong(): Long = when {
    isNaN() -> throw IllegalArgumentException("Cannot round NaN
value.")
    this > Long.MAX_VALUE -> Long.MAX_VALUE
    this < Long.MIN_VALUE ->
Long.MIN_VALUE
    else -> nativeMath.round(this).toLong()
}
// endregion
// endregion
===== Float Math =====
Computes the
sine of the angle [x] given in radians.
Special cases:
- `sin(NaN|+Inf|-Inf)` is `NaN`

```

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun sin(x: Float): Float =
nativeMath.sin(x.toDouble()).toFloat()
Computes the cosine of the angle [x] given in radians.
Special
cases:
- `cos(NaN|+Inf|-Inf)` is `NaN`

```

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun
cos(x: Float): Float = nativeMath.cos(x.toDouble()).toFloat()
Computes the tangent of the angle [x] given in
radians.
Special cases:
- `tan(NaN|+Inf|-Inf)` is `NaN`

```

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun tan(x: Float): Float =
nativeMath.tan(x.toDouble()).toFloat()
Computes the arc sine of the value [x];
the returned value is
an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.
Special cases:
- `asin(x)` is `NaN`, when `abs(x) >
1` or x is `NaN`

```

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun asin(x: Float): Float =
nativeMath.asin(x.toDouble()).toFloat()
Computes the arc cosine of the value [x];
the returned value
is an angle in the range from  $0.0$  to  $\pi$  radians.
Special cases:
- `acos(x)` is `NaN`, when `abs(x) >
1` or x is `NaN`

```

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun acos(x: Float): Float =
nativeMath.acos(x.toDouble()).toFloat()
Computes the arc tangent of the value [x];
the returned value
is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians.
Special cases:
- `atan(NaN)` is `NaN`

```

```

@SinceKotlin("1.2")
@InlineOnly
public actual inline fun atan(x: Float): Float =
nativeMath.atan(x.toDouble()).toFloat()
Returns the angle `theta` of the polar coordinates `(r, theta)` that
correspond
to the rectangular coordinates `(x, y)` by computing the arc tangent of the value  $y / x$ ;
the returned value is an angle in the range from  $-\pi$  to  $\pi$  radians.
Special cases:
- `atan2(0.0, 0.0)` is
`0.0`
- `atan2(0.0, x)` is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$ 
- `atan2(-0.0, x)` is  $-0.0$  for  $x > 0$  and  $-\pi$ 
for  $x < 0$ 
- `atan2(y, +Inf)` is  $0.0$  for  $0 < y < +Inf$  and  $-0.0$  for  $-Inf < y < 0$ 
- `atan2(y, -Inf)` is  $\pi$ 
for  $0 < y < +Inf$  and  $-\pi$  for  $-Inf < y < 0$ 
- `atan2(y, 0.0)` is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$ 
-
`atan2(+Inf, x)` is  $\pi/2$  for finite  $x$ 
- `atan2(-Inf, x)` is  $-\pi/2$  for finite  $x$ 
- `atan2(NaN, x)` and

```

```

`atan2(y, NaN)` is `NaN`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun atan2(y: Float, x: Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()
    * Computes the hyperbolic sine of the value [x].
    * Special cases:
    * - `sinh(NaN)` is `NaN`
    * - `sinh(+Inf)` is `+Inf`
    * - `sinh(-Inf)` is `-Inf`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun sinh(x: Float): Float = nativeMath.sinh(x.toDouble()).toFloat()
    * Computes the hyperbolic cosine of the value [x].
    * Special cases:
    * - `cosh(NaN)` is `NaN`
    * - `cosh(+Inf|-Inf)` is `+Inf`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun cosh(x: Float): Float = nativeMath.cosh(x.toDouble()).toFloat()
    * Computes the hyperbolic tangent of the value [x].
    * Special cases:
    * - `tanh(NaN)` is `NaN`
    * - `tanh(+Inf)` is `1.0`
    * - `tanh(-Inf)` is `-1.0`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun tanh(x: Float): Float = nativeMath.tanh(x.toDouble()).toFloat()
    * Computes the inverse hyperbolic sine of the value [x].
    * The returned value is `y` such that `sinh(y) == x`.
    * Special cases:
    * - `asinh(NaN)` is `NaN`
    * - `asinh(+Inf)` is `+Inf`
    * - `asinh(-Inf)` is `-Inf`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun asinh(x: Float): Float = nativeMath.asinh(x.toDouble()).toFloat()
    * Computes the inverse hyperbolic cosine of the value [x].
    * The returned value is positive `y` such that `cosh(y) == x`.
    * Special cases:
    * - `acosh(NaN)` is `NaN`
    * - `acosh(x)` is `NaN` when `x < 1`
    * - `acosh(+Inf)` is `+Inf`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun acosh(x: Float): Float = nativeMath.acosh(x.toDouble()).toFloat()
    * Computes the inverse hyperbolic tangent of the value [x].
    * The returned value is `y` such that `tanh(y) == x`.
    * Special cases:
    * - `tanh(NaN)` is `NaN`
    * - `tanh(x)` is `NaN` when `x > 1` or `x < -1`
    * - `tanh(1.0)` is `+Inf`
    * - `tanh(-1.0)` is `-Inf`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun atanh(x: Float): Float = nativeMath.atanh(x.toDouble()).toFloat()
    * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.
    * Special cases:
    * - returns `+Inf` if any of arguments is infinite
    * - returns `NaN` if any of arguments is `NaN` and the other is not infinite
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun hypot(x: Float, y: Float): Float = nativeMath.hypot(x.toDouble(), y.toDouble()).toFloat()
    * Computes the positive square root of the value [x].
    * Special cases:
    * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun sqrt(x: Float): Float = nativeMath.sqrt(x.toDouble()).toFloat()
    * Computes Euler's number `e` raised to the power of the value [x].
    * Special cases:
    * - `exp(NaN)` is `NaN`
    * - `exp(+Inf)` is `+Inf`
    * - `exp(-Inf)` is `0.0`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun exp(x: Float): Float = nativeMath.exp(x.toDouble()).toFloat()
    * Computes `exp(x) - 1`.
    * This function can be implemented to produce more precise result for [x] near zero.
    * Special cases:
    * - `expm1(NaN)` is `NaN`
    * - `expm1(+Inf)` is `+Inf`
    * - `expm1(-Inf)` is `-1.0`
    * @see [exp] function.
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun expm1(x: Float): Float = nativeMath.expm1(x.toDouble()).toFloat()
    * Computes the logarithm of the value [x] to the given [base].
    * Special cases:
    * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`
    * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`
    * - `log(+Inf, +Inf)` is `NaN`
    * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`
    * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`
    * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun log(x: Float, base: Float): Float = log(x.toDouble(), base.toDouble()).toFloat()
    * Computes the natural logarithm (base `E`) of the value [x].
    * Special cases:
    * - `ln(NaN)` is `NaN`
    * - `ln(x)` is `NaN` when `x < 0.0`
    * - `ln(+Inf)` is `+Inf`
    * - `ln(0.0)` is `-Inf`
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun ln(x: Float): Float = nativeMath.log(x.toDouble()).toFloat()
    * Computes the common logarithm (base 10) of the value [x].
    * @see [ln] function for special cases.
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun log10(x: Float): Float = nativeMath.log10(x.toDouble()).toFloat()
    * Computes the binary logarithm (base 2) of the value [x].
    * @see [ln] function for special cases.
@SinceKotlin("1.2")
@InlineOnly
public actual inline fun log2(x: Float): Float = nativeMath.log2(x.toDouble()).toFloat()
    * Computes `ln(a + 1)`.
    * This function can be implemented

```

to produce more precise result for [x] near zero.  
`ln` \* Special cases:  
`ln(NaN)` is `NaN`  
`ln(x)` is `NaN` where `x < -1.0`  
`ln(-1.0)` is `-Inf`  
`ln(+Inf)` is `+Inf`  
@see `[ln]` function  
@see `[expm1]` function  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun ln(x: Float): Float = nativeMath.log1p(x.toDouble()).toFloat()  
Rounds the given value [x] to an integer towards positive infinity.  
@return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.  
\* Special cases:  
`ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun ceil(x: Float): Float = nativeMath.ceil(x.toDouble()).toFloat()  
Rounds the given value [x] to an integer towards negative infinity.  
@return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.  
\* Special cases:  
`floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun floor(x: Float): Float = nativeMath.floor(x.toDouble()).toFloat()  
Rounds the given value [x] to an integer towards zero.  
@return the value [x] having its fractional part truncated.  
\* Special cases:  
`truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun truncate(x: Float): Float = truncate(x.toDouble()).toFloat()  
Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
\* Special cases:  
`round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun round(x: Float): Float = round(x.toDouble()).toFloat()  
Returns the absolute value of the given value [x].  
\* Special cases:  
`abs(NaN)` is `NaN`  
@see `absoluteValue` extension property for `[Float]`  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun abs(x: Float): Float = nativeMath.abs(x.toDouble()).toFloat()  
Returns the sign of the given value [x]:  
`-1.0` if the value is negative,  
zero if the value is zero,  
`1.0` if the value is positive  
\* Special case:  
`sign(NaN)` is `NaN`  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun sign(x: Float): Float = nativeMath.sign(x.toDouble()).toFloat()  
Returns the smaller of two values.  
\* If either value is `NaN`, then the result is `NaN`.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun min(a: Float, b: Float): Float = nativeMath.min(a, b)  
Returns the greater of two values.  
\* If either value is `NaN`, then the result is `NaN`.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun max(a: Float, b: Float): Float = nativeMath.max(a, b)  
extensions  
\* Raises this value to the power [x].  
\* Special cases:  
`b.pow(0.0)` is `1.0`  
`b.pow(1.0)` == `b`  
`b.pow(NaN)` is `NaN`  
`NaN.pow(x)` is `NaN` for `x != 0.0`  
`b.pow(Inf)` is `NaN` for `abs(b) == 1.0`  
`b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun Float.pow(x: Float): Float = nativeMath.pow(this.toDouble(), x.toDouble()).toFloat()  
Raises this value to the integer power [n].  
\* See the other overload of `[pow]` for details.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun Float.pow(n: Int): Float = nativeMath.pow(this.toDouble(), n.toDouble()).toFloat()  
Returns the absolute value of this value.  
\* Special cases:  
`NaN.absoluteValue` is `NaN`  
@see `abs` function  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline val Float.absoluteValue: Float get() = nativeMath.abs(this.toDouble()).toFloat()  
Returns the sign of this value:  
`-1.0` if the value is negative,  
zero if the value is zero,  
`1.0` if the value is positive  
\* Special case:  
`NaN.sign` is `NaN`  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline val Float.sign: Float get() = nativeMath.sign(this.toDouble()).toFloat()  
Returns this value with the sign bit same as of the `[sign]` value.  
\* If `[sign]` is `NaN` the sign of the result is undefined.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun Float.withSign(sign: Float): Float = this.toDouble().withSign(sign.toDouble()).toFloat()  
Returns this value with the sign bit same as of the `[sign]` value.  
@SinceKotlin("1.2")  
@InlineOnly  
public actual inline fun Float.withSign(sign: Int): Float = this.toDouble().withSign(sign.toDouble()).toFloat()  
Rounds this `[Float]` value to the nearest integer and converts the result to `[Int]`.  
\* Ties are rounded towards positive infinity.  
\* Special cases:  
`x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`  
`x.roundToInt() == Int.MIN_VALUE`

```

when `x < Int.MIN_VALUE` \n * \n * @throws IllegalArgumentException when this value is `NaN` \n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToInt(): Int =
toDouble().roundToInt()\n\n**\n * Rounds this [Float] value to the nearest integer and converts the result to
[Long].\n * Ties are rounded towards positive infinity.\n * \n * Special cases:\n * - `x.roundToLong() ==
Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x
< Long.MIN_VALUE`\n * \n * @throws IllegalArgumentException when this value is `NaN` \n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun Float.roundToLong(): Long =
toDouble().roundToLong()\n\n// endregion\n\n// region ===== Integer Math
===== \n\n**\n * Returns the absolute value of the given value
[n].\n * \n * Special cases:\n * - `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow\n * \n * @see
absoluteValue extension property for [Int]\n * \n // TODO: remove manual 'or' when KT-19290 is
fixed\n@SinceKotlin("1.2")\npublic actual fun abs(n: Int): Int = if (n < 0) (-n or 0) else n\n\n**\n * Returns the
smaller of two values.\n * \n @SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun min(a: Int, b: Int): Int =
nativeMath.min(a, b)\n\n**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun max(a: Int, b: Int): Int = nativeMath.max(a,
b)\n\n**\n * Returns the absolute value of this value.\n * \n * Special cases:\n * -
`Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n * \n * @see abs function\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Int.absoluteValue: Int get() = abs(this)\n\n**\n *
Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value
is positive\n * \n @SinceKotlin("1.2")\npublic actual val Int.sign: Int get() = when { \n this < 0 -> -1 \n this > 0 -
> 1 \n else -> 0 \n } \n\n\n**\n * Returns the absolute value of the given value [n].\n * \n * Special cases:\n * -
`abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n * \n * @see absoluteValue extension
property for [Long]\n * \n @SinceKotlin("1.2")\npublic actual fun abs(n: Long): Long = if (n < 0) -n else
n\n\n**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun min(a: Long, b:
Long): Long = if (a <= b) a else b\n\n**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun max(a: Long, b:
Long): Long = if (a >= b) a else b\n\n**\n * Returns the absolute value of this value.\n * \n * Special cases:\n * -
`Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n * \n * @see abs function\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Long.absoluteValue: Long get() =
abs(this)\n\n**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n *
- `1` if the value is positive\n * \n @SinceKotlin("1.2")\npublic actual val Long.sign: Int get() = when { \n this
< 0 -> -1 \n this > 0 -> 1 \n else -> 0 \n } \n\n\n// endregion\n", /*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n * \n @npackage kotlin\n\n**\n * Returns `true` if the specified
number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n * \n @npublic actual fun Double.isNaN(): Boolean =
this != this\n\n**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n
*\n @npublic actual fun Float.isNaN(): Boolean = this != this\n\n**\n * Returns `true` if this value is infinitely large in
magnitude.\n * \n @npublic actual fun Double.isInfinite(): Boolean = this == Double.POSITIVE_INFINITY || this ==
Double.NEGATIVE_INFINITY\n\n**\n * Returns `true` if this value is infinitely large in magnitude.\n * \n @npublic
actual fun Float.isInfinite(): Boolean = this == Float.POSITIVE_INFINITY || this ==
Float.NEGATIVE_INFINITY\n\n**\n * Returns `true` if the argument is a finite floating-point value; returns
`false` otherwise (for `NaN` and infinity arguments).\n * \n @npublic actual fun Double.isFinite(): Boolean =
!isInfinite() && !isNaN()\n\n**\n * Returns `true` if the argument is a finite floating-point value; returns `false`
otherwise (for `NaN` and infinity arguments).\n * \n @npublic actual fun Float.isFinite(): Boolean = !isInfinite() &&
!isNaN()\n\n**\n * Counts the number of set bits in the binary representation of this [Int] number.\n
*\n @SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.countOneBits(): Int { \n // Hacker's Delight 5-1 algorithm\n var v = this\n v = (v and 0x55555555) +

```

```

(v.ushr(1) and 0x55555555)\n    v = (v and 0x33333333) + (v.ushr(2) and 0x33333333)\n    v = (v and 0x0F0F0F0F)
+ (v.ushr(4) and 0x0F0F0F0F)\n    v = (v and 0x00FF00FF) + (v.ushr(8) and 0x00FF00FF)\n    v = (v and
0x0000FFFF) + (v.ushr(16))\n    return v\n}\n\n**\n * Counts the number of consecutive most significant bits that
are zero in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic
c actual inline fun Int.countLeadingZeroBits(): Int = JsMath.clz32(this)\n\n**\n * Counts the number of
consecutive least significant bits that are zero in the binary representation of this [Int] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.countTrailingZeroBits(): Int =\n    // Hacker's Delight 5-4 algorithm for expressing countTrailingZeroBits with
countLeadingZeroBits\n    Int.SIZE_BITS - (this or -this).inv().countLeadingZeroBits()\n\n**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [Int] number,\n * or zero, if this
number is zero.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.takeHighestOneBit(): Int =\n    if (this == 0) 0 else 1.shl(Int.SIZE_BITS - 1 - countLeadingZeroBits())\n\n**\n *
Returns a number having a single bit set in the position of the least significant set bit of this [Int] number,\n * or
zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.takeLowestOneBit(): Int =\n    // Hacker's Delight 2-1 algorithm for isolating rightmost 1-bit\n    this and -
this\n\n**\n * Rotates the binary representation of this [Int] number left by the specified [bitCount] number of
bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the
right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit
count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [Int.SIZE_BITS] (32)
returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.rotateLeft(bitCount: Int): Int =\n    shl(bitCount) or ushr(Int.SIZE_BITS - bitCount)\n\n**\n * Rotates the
binary representation of this [Int] number right by the specified [bitCount] number of bits.\n * The least significant
bits pushed out from the right side reenter the number as the most significant bits on the left side.\n * Rotating
the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Int.rotateRight(bitCount: Int): Int =\n    shl(Int.SIZE_BITS - bitCount) or ushr(bitCount)\n\n**\n * Counts the
number of set bits in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countOneBits(): Int =\n    high.countOneBits() + low.countOneBits()\n\n**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countLeadingZeroBits(): Int =\n    when (val high = this.high) {\n        0 -> Int.SIZE_BITS +
low.countLeadingZeroBits()\n        else -> high.countLeadingZeroBits()\n    }\n\n**\n * Counts the number of
consecutive least significant bits that are zero in the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.countTrailingZeroBits(): Int =\n    when (val low = this.low) {\n        0 -> Int.SIZE_BITS +
high.countTrailingZeroBits()\n        else -> low.countTrailingZeroBits()\n    }\n\n**\n * Returns a number having a
single bit set in the position of the most significant set bit of this [Long] number,\n * or zero, if this number is
zero.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun
Long.takeHighestOneBit(): Long =\n    when (val high = this.high) {\n        0 -> Long(low.takeHighestOneBit(),
0)\n        else -> Long(0, high.takeHighestOneBit())\n    }\n\n**\n * Returns a number having a single bit set in the
position of the least significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun

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```

Long.takeLowestOneBit(): Long =\n    when (val low = this.low) {\n        0 -> Long(0, high.takeLowestOneBit())\n        else -> Long(low.takeLowestOneBit(), 0)\n    }\n\n/**\n * Rotates the binary representation of this [Long]\n number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side\n reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit\n count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) ==\n number.rotateRight(n)`\n *\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more\n generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n\n*/\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun\nLong.rotateLeft(bitCount: Int): Long {\n    if ((bitCount and 31) != 0) {\n        val low = this.low\n        val high =\n this.high\n        val newLow = low.shl(bitCount) or high.ushr(-bitCount)\n        val newHigh = high.shl(bitCount) or\n low.ushr(-bitCount)\n        return if ((bitCount and 32) == 0) Long(newLow, newHigh) else Long(newHigh,\n newLow)\n    } else {\n        return if ((bitCount and 32) == 0) this else Long(high, low)\n    }\n}\n\n/**\n * Rotates the binary representation of this [Long] number right by the specified [bitCount] number of bits.\n * The\n least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns\n the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n\n*/\n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic\n actual inline fun Long.rotateRight(bitCount: Int): Long = rotateLeft(-bitCount)\n\n"/*\n * Copyright 2010-2018\n JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the\n Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport\n kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Exposes the JavaScript [Promise\n object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Promise) to Kotlin.\n\n*/\n\n@Suppress("NOT_DOCUMENTED")\npublic open external class Promise<out T>(executor: (resolve: (T) ->\n Unit, reject: (Throwable) -> Unit) -> Unit) {\n    @LowPriorityInOverloadResolution\n    public open fun <S>\n then(onFulfilled: ((T) -> S)?): Promise<S>\n\n    @LowPriorityInOverloadResolution\n    public open fun <S>\n then(onFulfilled: ((T) -> S)?, onRejected: ((Throwable) -> S)?): Promise<S>\n\n    public open fun <S>\n catch(onRejected: (Throwable) -> S): Promise<S>\n\n    public open fun finally(onFinally: () -> Unit):\n Promise<T>\n\n    companion object {\n        public fun <S> all(promise: Array<out Promise<S>>):\n Promise<Array<out S>>\n\n        public fun <S> race(promise: Array<out Promise<S>>): Promise<S>\n\n        public fun reject(e: Throwable): Promise<Nothing>\n\n        public fun <S> resolve(e: S): Promise<S>\n\n        public\n fun <S> resolve(e: Promise<S>): Promise<S>\n    }\n}\n\n// It's workaround for KT-19672 since we can fix it\n properly until KT-11265 isn't fixed.\n\ninline fun <T, S> Promise<Promise<T>>.then(\n    noinline onFulfilled: ((T) ->\n > S)?\n): Promise<S> {\n    return this.unsafeCast<Promise<T>>().then(onFulfilled)\n}\n\ninline fun <T, S>\n Promise<Promise<T>>.then(\n    noinline onFulfilled: ((T) -> S)?,\n    noinline onRejected: ((Throwable) -> S)?\n): Promise<S> {\n    return this.unsafeCast<Promise<T>>().then(onFulfilled, onRejected)\n}\n\n"/*\n * Copyright\n 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed\n by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage\n kotlin.random\n\nimport\n kotlin.math.pow\n\ninternal\n actual fun defaultPlatformRandom(): Random =\n Random(js{"(Math.random() * Math.pow(2, 32)) | 0"}).unsafeCast<Int>())\n\nprivate\n val INV_2_26: Double =\n 2.0.pow(-26)\n\nprivate\n val INV_2_53: Double = 2.0.pow(-53)\n\ninternal\n actual fun doubleFromParts(hi26: Int, low27:\n Int): Double =\n hi26 * INV_2_26 + low27 * INV_2_53\n\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin\n Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be\n found in the license/LICENSE.txt file.\n */\n\npackage\n kotlin.reflect\n\nimport\n findAssociatedObject\n\n/**\n * The\n experimental marker for associated objects API.\n *\n * Any usage of a declaration annotated with\n `@ExperimentalAssociatedObjects` must be accepted either by\n * annotating that usage with the [OptIn]\n annotation, e.g. `@OptIn(ExperimentalAssociatedObjects::class)`,\n * or by using the compiler argument `-opt-in=kotlin.reflect.ExperimentalAssociatedObjects`.\n\n*/\n\n@RequiresOptIn(level =

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RequiresOptIn.Level.ERROR)\n@Retention(value = AnnotationRetention.BINARY)\npublic annotation class
ExperimentalAssociatedObjects\n\n/**\n * Makes the annotated annotation class an associated object key.\n *\n * An associated object key annotation should have single [KClass] parameter.\n * When applied to a class with
reference to an object declaration as an argument, it binds\n * the object to the class, making this binding
discoverable at runtime using [findAssociatedObject].\n
*\n@ExperimentalAssociatedObjects\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.A
NNOTATION_CLASS)\npublic annotation class AssociatedObjectKey\n\n/**\n * If [T] is an
@[AssociatedObjectKey]-annotated annotation class and [this] class is annotated with @[T] (`S::class`),\n * returns
object `S`.\n *\n * Otherwise returns `null`.\n *\n@ExperimentalAssociatedObjects\npublic inline fun <reified T :
Annotation> KClass<*>.findAssociatedObject(): Any? =\n this.findAssociatedObject(T::class)","/*\n * Copyright
2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport
getKClass\nimport kotlin.reflect.KClass\nimport kotlin.reflect.js.internal.KClassImpl\n\n/**\n * Represents the
constructor of a class. Instances of `JsClass` can be passed to JavaScript APIs that expect a constructor reference.\n
*\n@nexternal interface JsClass<T : Any> {\n //**\n * Returns the unqualified name of the class represented by
this instance.\n *\n val name: String\n}\n\n/**\n * Obtains a constructor reference for the given `KClass`.\n
*\n@nval <T : Any> KClass<T>.js: JsClass<T>\n get() = (this as KClassImpl<T>).jClass\n\n/**\n * Obtains a
`KClass` instance for the given constructor reference.\n *\n@nval <T : Any> JsClass<T>.kotlin: KClass<T>\n get()
= getKClass(this)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal abstract
class KClassImpl<T : Any>(\n internal open val jClass: JsClass<T>\n) : KClass<T> {\n\n override val
qualifiedName: String?\n get() = TODO()\n\n override fun equals(other: Any?): Boolean {\n return other
is KClassImpl<*> && jClass == other.jClass\n }\n\n // TODO: use FQN\n override fun hashCode(): Int =
simpleName?.hashCode() ?: 0\n\n override fun toString(): String {\n // TODO: use FQN\n return "\"class
$simpleName\""n }\n}\n\ninternal class SimpleKClassImpl<T : Any>(jClass: JsClass<T>) :
KClassImpl<T>(jClass) {\n override val simpleName: String? =
jClass.asDynamic().`$metadata$`.simpleName.unsafeCast<String?>()\n\n override fun isInstance(value: Any?):
Boolean {\n return jsIsType(value, jClass)\n }\n}\n\ninternal class PrimitiveKClassImpl<T : Any>(\n
jClass: JsClass<T>,\n private val givenSimpleName: String,\n private val isInstanceFunction: (Any?) ->
Boolean\n) : KClassImpl<T>(jClass) {\n override fun equals(other: Any?): Boolean {\n if (other !is
PrimitiveKClassImpl<*>) return false\n return super.equals(other) && givenSimpleName ==
other.givenSimpleName\n }\n\n override val simpleName: String? get() = givenSimpleName\n\n override fun
isInstance(value: Any?): Boolean {\n return isInstanceFunction(value)\n }\n}\n\ninternal object
NothingKClassImpl : KClassImpl<Nothing>(js("Object")) {\n override val simpleName: String =
\"Nothing\"\n\n override fun isInstance(value: Any?): Boolean = false\n\n override val jClass:
JsClass<Nothing>\n get() = throw UnsupportedOperationException("There's no native JS class for Nothing
type")\n\n override fun equals(other: Any?): Boolean = other === this\n\n override fun hashCode(): Int =
0\n}\n\ninternal class ErrorKClass : KClass<Nothing> {\n override val simpleName: String? get() =
error("Unknown simpleName for ErrorKClass")\n\n override val qualifiedName: String? get() = error("Unknown
qualifiedName for ErrorKClass")\n\n override fun isInstance(value: Any?): Boolean = error("Can's check
isInstance on ErrorKClass")\n\n override fun equals(other: Any?): Boolean = other === this\n\n override fun
hashCode(): Int = 0\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\ninternal actual inline val
KClass<*>.qualifiedOrSimpleName: String? get() = simpleName","/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under

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the module\n\n// TODO: Remove once JsReflectionAPIChecker supports more reflection
types\n@file:Suppress("Unsupported")\n\nimport kotlin.reflect.*\nimport
kotlin.reflect.js.internal.*\n\n@JsName("createKType")\n\ninternal fun createKType(\n classifier: KClassifier,\n
arguments: Array<KTypeProjection>,\n isMarkedNullable: Boolean)\n =\n KTypeImpl(classifier,\n
arguments.asList(), isMarkedNullable)\n\n@JsName("createDynamicKType")\n\ninternal fun
createDynamicKType(): KType = DynamicKType\n\n@JsName("markKTypeNullable")\n\ninternal fun
markKTypeNullable(kType: KType) = KTypeImpl(kType.classifier!!, kType.arguments,\n
true)\n\n@JsName("createKTypeParameter")\n\ninternal fun createKTypeParameter(\n name: String,\n
upperBounds: Array<KType>,\n variance: String)\n: KTypeParameter {\n val kVariance = when (variance) {\n
"in" -> KVariance.IN\n "out" -> KVariance.OUT\n else -> KVariance.INVARIANT\n }\n\n return
KTypeParameterImpl(name, upperBounds.asList(), kVariance,\n
false)\n}\n\n@JsName("getStarKTypeProjection")\n\ninternal fun getStarKTypeProjection(): KTypeProjection =\n
KTypeProjection.STAR\n\n@JsName("createCovariantKTypeProjection")\n\ninternal fun
createCovariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.covariant(type)\n\n@JsName("createInvariantKTypeProjection")\n\ninternal fun
createInvariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.invariant(type)\n\n@JsName("createContravariantKTypeProjection")\n\ninternal fun
createContravariantKTypeProjection(type: KType): KTypeProjection =\n
KTypeProjection.contravariant(type)\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal class
KTypeImpl(\n override val classifier: KClassifier,\n override val arguments: List<KTypeProjection>,\n
override val isMarkedNullable: Boolean)\n: KType {\n override fun equals(other: Any?): Boolean =\n other
is KTypeImpl &&\n classifier == other.classifier && arguments == other.arguments &&
isMarkedNullable == other.isMarkedNullable\n\n override fun hashCode(): Int =\n (classifier.hashCode() * 31
+ arguments.hashCode()) * 31 + isMarkedNullable.hashCode()\n\n override fun toString(): String {\n val
kClass = (classifier as? KClass<*>)\n val classifierName = when {\n kClass == null ->
classifier.toString()\n kClass.simpleName != null -> kClass.simpleName\n else -> "(non-denotable
type)"\n }\n\n val args =\n if (arguments.isEmpty()) ""\n else arguments.joinToString(", ",
"<", ">")\n\n val nullable = if (isMarkedNullable) "?" else ""\n\n return classifierName + args +
nullable\n }\n}\n\ninternal object DynamicKType : KType {\n override val classifier: KClassifier? = null\n
override val arguments: List<KTypeProjection> = emptyList()\n override val isMarkedNullable: Boolean = false\n
override fun toString(): String = "dynamic"\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal
data class KTypeParameterImpl(\n override val name: String,\n override val upperBounds: List<KType>,\n
override val variance: KVariance,\n override val isReified: Boolean)\n: KTypeParameter {\n override fun
toString(): String = name\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.js.JsClass\n\n@JsName("PrimitiveClasses")\n\ninternal object PrimitiveClasses {\n
@JsName("anyClass")\n val anyClass = PrimitiveKClassImpl(js("Object").unsafeCast<JsClass<Any>>(),
"Any", { it is Any })\n\n @JsName("numberClass")\n val numberClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Number>>(), "Number", { it is Number })\n\n
@JsName("nothingClass")\n val nothingClass = NothingKClassImpl\n\n @JsName("booleanClass")\n val
booleanClass = PrimitiveKClassImpl(js("Boolean").unsafeCast<JsClass<Boolean>>(), "Boolean", { it is Boolean
})\n\n @JsName("byteClass")\n val byteClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Byte>>(), "Byte", { it is Byte })\n\n

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@JsName("shortClass")\n val shortClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Short>>(),
"Short", { it is Short })\n @JsName("intClass")\n val intClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Int>>(), "Int", { it is Int })\n\n
@JsName("floatClass")\n val floatClass = PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Float>>(),
"Float", { it is Float })\n @JsName("doubleClass")\n val doubleClass =
PrimitiveKClassImpl(js("Number").unsafeCast<JsClass<Double>>(), "Double", { it is Double })\n\n
@JsName("arrayClass")\n val arrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<Array<*>>>(), "Array", { it is Array<*> })\n\n
@JsName("stringClass")\n val stringClass = PrimitiveKClassImpl(js("String").unsafeCast<JsClass<String>>(),
"String", { it is String })\n @JsName("throwableClass")\n val throwableClass =
PrimitiveKClassImpl(js("Error").unsafeCast<JsClass<Throwable>>(), "Throwable", { it is Throwable })\n\n
@JsName("booleanArrayClass")\n val booleanArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<BooleanArray>>(), "BooleanArray", { it is BooleanArray
})\n\n @JsName("charArrayClass")\n val charArrayClass =
PrimitiveKClassImpl(js("Uint16Array").unsafeCast<JsClass<CharArray>>(), "CharArray", { it is CharArray
})\n\n @JsName("byteArrayClass")\n val byteArrayClass =
PrimitiveKClassImpl(js("Int8Array").unsafeCast<JsClass<ByteArray>>(), "ByteArray", { it is ByteArray })\n\n
@JsName("shortArrayClass")\n val shortArrayClass =
PrimitiveKClassImpl(js("Int16Array").unsafeCast<JsClass<ShortArray>>(), "ShortArray", { it is ShortArray
})\n\n @JsName("intArrayClass")\n val intArrayClass =
PrimitiveKClassImpl(js("Int32Array").unsafeCast<JsClass<IntArray>>(), "IntArray", { it is IntArray })\n\n
@JsName("longArrayClass")\n val longArrayClass =
PrimitiveKClassImpl(js("Array").unsafeCast<JsClass<LongArray>>(), "LongArray", { it is LongArray })\n\n
@JsName("floatArrayClass")\n val floatArrayClass =
PrimitiveKClassImpl(js("Float32Array").unsafeCast<JsClass<FloatArray>>(), "FloatArray", { it is FloatArray
})\n\n @JsName("doubleArrayClass")\n val doubleArrayClass =
PrimitiveKClassImpl(js("Float64Array").unsafeCast<JsClass<DoubleArray>>(), "DoubleArray", { it is
DoubleArray })\n\n @JsName("functionClass")\n fun functionClass(arity: Int): KClassImpl<Any> {\n
return functionClasses.get(arity) ?: run {\n val result =
PrimitiveKClassImpl(js("Function").unsafeCast<JsClass<Any>>(), "Function$arity",\n
{ jsTypeOf(it) === "function" && it.asDynamic().length === arity })\n functionClasses.asDynamic()[arity]
= result\n result\n }\n }\n\nprivate val functionClasses =
arrayOfNulls<KClassImpl<Any>>(0),"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\nimport
kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName("getKClass")\n\ninternal fun <T : Any>
getKClass(jClass: Any /* JsClass<T> | Array<JsClass<T>> */): KClass<T> {\n return if
(js("Array").isArray(jClass)) {\n getKClassM(jClass.unsafeCast<Array<JsClass<T>>>())\n } else {\n
getKClass1(jClass.unsafeCast<JsClass<T>>())\n }\n }\n\n@JsName("getKClassM")\n\ninternal fun <T : Any>
getKClassM(jClasses: Array<JsClass<T>>): KClass<T> = when (jClasses.size) {\n 1 ->
getKClass1(jClasses[0])\n 0 -> NothingKClassImpl.unsafeCast<KClass<T>>()\n else ->
ErrorKClass().unsafeCast<KClass<T>>()\n }\n\n@JsName("getKClassFromExpression")\n\ninternal fun <T : Any>
getKClassFromExpression(e: T): KClass<T> =\n when (jsTypeOf(e)) {\n "string" ->
PrimitiveClasses.stringClass\n "number" -> if (jsBitwiseOr(e, 0).asDynamic() === e)
PrimitiveClasses.intClass else PrimitiveClasses.doubleClass\n "boolean" -> PrimitiveClasses.booleanClass\n
"function" -> PrimitiveClasses.functionClass(e.asDynamic().length)\n else -> {\n when {\n e
is BooleanArray -> PrimitiveClasses.booleanArrayClass\n e is CharArray ->
PrimitiveClasses.charArrayClass\n e is ByteArray -> PrimitiveClasses.byteArrayClass\n e is

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ShortArray -> PrimitiveClasses.shortArrayClass\n          e is IntArray -> PrimitiveClasses.intArrayClass\n
    e is LongArray -> PrimitiveClasses.longArrayClass\n          e is FloatArray ->
PrimitiveClasses.floatArrayClass\n          e is DoubleArray -> PrimitiveClasses.doubleArrayClass\n          e is
KClass<*> -> KClass::class\n          e is Array<*> -> PrimitiveClasses.arrayClass\n          else -> {\n
    val constructor = js(\"Object\").getPrototypeOf(e).constructor\n          when {\n          constructor
=== js(\"Object\") -> PrimitiveClasses.anyClass\n          constructor === js(\"Error\") ->
PrimitiveClasses.throwableClass\n          else -> {\n          val jsClass: JsClass<T> =
constructor\n          getKClass1(jsClass)\n          }\n          }\n          }\n          }\n
}\n } .unsafeCast<KClass<T>>()\n@JsName(\"getKClass1\")\ninternal fun <T : Any> getKClass1(jClass:
JsClass<T>): KClass<T> {\n if (jClass === js(\"String\")) return
PrimitiveClasses.stringClass.unsafeCast<KClass<T>>()\n val metadata = jClass.asDynamic().`$metadata$\n
return if (metadata != null) {\n if (metadata.`$kClass$` == null) {\n val kClass =
SimpleKClassImpl(jClass)\n metadata.`$kClass$` = kClass\n kClass\n } else {\n
metadata.`$kClass$`\n }\n } else {\n SimpleKClassImpl(jClass)\n }\n }\", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.js\n\n/**\n * Exposes
the JavaScript [RegExp
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/RegExp) to Kotlin.\n
*\n@Suppress(\"NOT_DOCUMENTED\")\npublic external class RegExp(pattern: String, flags: String? =
definedExternally) {\n\n public fun test(str: String): Boolean\n\n public fun exec(str: String): RegExpMatch?\n\n
public override fun toString(): String\n\n /**\n * The lastIndex is a read/write integer property of regular
expressions that specifies the index at which to start the next match.\n */\n public var lastIndex: Int\n\n public
val global: Boolean\n public val ignoreCase: Boolean\n public val multiline: Boolean\n}\n\n/**\n * Resets the
regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning
of the input string.\n */\npublic fun RegExp.reset() {\n lastIndex = 0\n}\n\n// TODO: Inherit from array or
introduce asArray() extension\n\n/**\n * Represents the return value of [RegExp.exec].\n
*\n@Suppress(\"NOT_DOCUMENTED\")\npublic external interface RegExpMatch {\n public val index: Int\n
public val input: String\n public val length: Int\n}\n\n/**\n * Returns the entire text matched by [RegExp.exec] if
the [index] parameter is 0, or the text matched by the capturing parenthesis\n * at the given index.\n */\npublic inline
operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]\n\n/**\n * Converts the result of
[RegExp.exec] to an array where the first element contains the entire matched text and each subsequent\n * element
is the text matched by each capturing parenthesis.\n */\npublic inline fun RegExpMatch.asArray(): Array<out
String?> = unsafeCast<Array<out String?>>()\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\npackage kotlin.sequences\n\ninternal actual class
ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>) : Sequence<T> {\n private var
sequenceRef: Sequence<T>? = sequence\n\n actual override fun iterator(): Iterator<T> {\n val sequence =
sequenceRef ?: throw IllegalStateException(\"This sequence can be consumed only once.\")\n sequenceRef =
null\n return sequence.iterator()\n }\n}\n\n\", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\npackage kotlin.text\n\n@SinceKotlin(\"1.5\")\npublic actual enum
class CharCategory(internal val value: Int, public actual val code: String) {\n /**\n * General category \"Cn\" in
the Unicode specification.\n */\n UNASSIGNED(0, \"Cn\"),\n\n /**\n * General category \"Lu\" in the
Unicode specification.\n */\n UPPERCASE_LETTER(1, \"Lu\"),\n\n /**\n * General category \"Ll\" in the
Unicode specification.\n */\n LOWERCASE_LETTER(2, \"Ll\"),\n\n /**\n * General category \"Lt\" in the
Unicode specification.\n */\n TITLECASE_LETTER(3, \"Lt\"),\n\n /**\n * General category \"Lm\" in the
Unicode specification.\n */\n MODIFIER_LETTER(4, \"Lm\"),\n\n /**\n * General category \"Lo\" in the
Unicode specification.\n */\n OTHER_LETTER(5, \"Lo\"),\n\n /**\n * General category \"Mn\" in the

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Unicode specification.\n    *^n    NON_SPACING_MARK(6, "Mn"),\n\n    /**\n    * General category "Me" in
the Unicode specification.\n    *^n    ENCLOSING_MARK(7, "Me"),\n\n    /**\n    * General category "Mc" in
the Unicode specification.\n    *^n    COMBINING_SPACING_MARK(8, "Mc"),\n\n    /**\n    * General
category "Nd" in the Unicode specification.\n    *^n    DECIMAL_DIGIT_NUMBER(9, "Nd"),\n\n    /**\n    *
General category "NI" in the Unicode specification.\n    *^n    LETTER_NUMBER(10, "NI"),\n\n    /**\n    *
General category "No" in the Unicode specification.\n    *^n    OTHER_NUMBER(11, "No"),\n\n    /**\n    *
General category "Zs" in the Unicode specification.\n    *^n    SPACE_SEPARATOR(12, "Zs"),\n\n    /**\n    *
General category "Zl" in the Unicode specification.\n    *^n    LINE_SEPARATOR(13, "Zl"),\n\n    /**\n    *
General category "Zp" in the Unicode specification.\n    *^n    PARAGRAPH_SEPARATOR(14, "Zp"),\n\n
/**\n    * General category "Cc" in the Unicode specification.\n    *^n    CONTROL(15, "Cc"),\n\n    /**\n    *
General category "Cf" in the Unicode specification.\n    *^n    FORMAT(16, "Cf"),\n\n    /**\n    * General
category "Co" in the Unicode specification.\n    *^n    PRIVATE_USE(18, "Co"),\n\n    /**\n    * General
category "Cs" in the Unicode specification.\n    *^n    SURROGATE(19, "Cs"),\n\n    /**\n    * General category
"Pd" in the Unicode specification.\n    *^n    DASH_PUNCTUATION(20, "Pd"),\n\n    /**\n    * General
category "Ps" in the Unicode specification.\n    *^n    START_PUNCTUATION(21, "Ps"),\n\n    /**\n    *
General category "Pe" in the Unicode specification.\n    *^n    END_PUNCTUATION(22, "Pe"),\n\n    /**\n    *
General category "Pc" in the Unicode specification.\n    *^n    CONNECTOR_PUNCTUATION(23, "Pc"),\n\n
/**\n    * General category "Po" in the Unicode specification.\n    *^n    OTHER_PUNCTUATION(24,
"Po"),\n\n    /**\n    * General category "Sm" in the Unicode specification.\n    *^n    MATH_SYMBOL(25,
"Sm"),\n\n    /**\n    * General category "Sc" in the Unicode specification.\n    *^n
CURRENCY_SYMBOL(26, "Sc"),\n\n    /**\n    * General category "Sk" in the Unicode specification.\n    *^n
MODIFIER_SYMBOL(27, "Sk"),\n\n    /**\n    * General category "So" in the Unicode specification.\n    *^n
OTHER_SYMBOL(28, "So"),\n\n    /**\n    * General category "Pi" in the Unicode specification.\n    *^n
INITIAL_QUOTE_PUNCTUATION(29, "Pi"),\n\n    /**\n    * General category "Pf" in the Unicode
specification.\n    *^n    FINAL_QUOTE_PUNCTUATION(30, "Pf");\n\n    /**\n    * Returns `true` if [char]
character belongs to this category.\n    *^n    public actual operator fun contains(char: Char): Boolean =
char.getCategoryValue() == this.value\n\n    companion object {\n        internal fun valueOf(category: Int):
CharCategory =\n            when (category) {\n                in 0..16 -> values()[category]\n                in 18..30 ->
values()[category - 1]\n                else -> throw IllegalArgumentException("Category #\$category is not defined.")\n
            }\n    }\n\n    /**\n    * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n
* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*^n\npackage kotlin.text\n\n/**\n * The exception thrown when a character encoding or decoding error occurs.\n
*^n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual open class
CharacterCodingException(message: String?) : Exception(message) {\n    actual constructor() : this(null)\n}\n\n/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *^n\npackage
kotlin.text\n\n/**\n * A mutable sequence of characters.\n *^n\n * String builder can be used to efficiently perform
multiple string manipulation operations.\n *^n\npublic actual class StringBuilder actual constructor(content: String) :
Appendable, CharSequence {\n    /**\n    * Constructs an empty string builder with the specified initial [capacity].\n
*^n\n    * In Kotlin/JS implementation of StringBuilder the initial capacity has no effect on the further performance
of operations.\n    *^n\n    actual constructor(capacity: Int) : this() {\n    }\n\n    /**\n    * Constructs a string builder that
contains the same characters as the specified [content] char sequence.\n    *^n\n    actual constructor(content:
CharSequence) : this(content.toString()) {\n    }\n\n    /**\n    * Constructs an empty string builder.\n    *^n\n    actual constructor() :
this("")\n\n    private var string: String = if (content !== undefined) content else ""\n\n    actual override val
length: Int\n        get() = string.asDynamic().length\n\n    actual override fun get(index: Int): Char =\n
string.getOrElse(index) { throw IndexOutOfBoundsException("index: \$index, length: \$length")} }\n\n    actual
override fun subSequence(startIndex: Int, endIndex: Int): CharSequence = string.substring(startIndex, endIndex)\n\n
actual override fun append(value: Char): StringBuilder {\n        string += value\n        return this\n    }\n\n    actual

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override fun append(value: CharSequence?): StringBuilder {
    string += value.toString()
    return this
}

actual override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder =
this.appendRange(value ?: "null", startIndex, endIndex)

/**
 * Reverses the contents of this string builder
and returns this instance.
 * Surrogate pairs included in this string builder are treated as single
characters.
 * Therefore, the order of the high-low surrogates is never reversed.
 * Note that the reverse
operation may produce new surrogate pairs that were unpaired low-surrogates and high-surrogates before the
operation.
 * For example, reversing "\uDC00\uD800" produces "\uD800\uDC00" which is a valid
surrogate pair.
 */
actual fun reverse(): StringBuilder {
    var reversed = ""
    var index =
string.length - 1
    while (index >= 0) {
        val low = string[index--]
        if (low.isLowSurrogate() &&
index >= 0) {
            val high = string[index--]
            if (high.isHighSurrogate()) {
                reversed =
reversed + high + low
            } else {
                reversed =
reversed + low + high
            }
        } else {
            reversed += low
        }
    }
    string = reversed
    return this
}

/**
 * Appends the string representation of the specified object [value] to this string builder and returns this instance.
 * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,
 * and then that string was appended to this string builder.
 */
actual fun append(value: Any?): StringBuilder {
    string += value.toString()
    return this
}

/**
 * Appends the string representation of the
specified boolean [value] to this string builder and returns this instance.
 * The overall effect is exactly as
if the [value] were converted to a string by the `value.toString()` method,
 * and then that string was appended to
this string builder.
 */
@SinceKotlin("1.3")
actual fun append(value: Boolean): StringBuilder {
    string += value
    return this
}

/**
 * Appends characters in the specified character array [value] to
this string builder and returns this instance.
 * Characters are appended in order, starting at the index 0.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
actual fun append(value:
CharArray): StringBuilder {
    string += value.concatToString()
    return this
}

@Deprecated("Provided for binary compatibility.", level = DeprecationLevel.HIDDEN)
fun append(value:
String): StringBuilder = append(value)

/**
 * Appends the specified string [value] to this string builder and
returns this instance.
 * If [value] is `null`, then the four characters `null` are appended.
 */
@SinceKotlin("1.3")
actual fun append(value: String?): StringBuilder {
    this.string += value ?: "null"
    return this
}

/**
 * Returns the current capacity of this string builder.
 * The capacity is the
maximum length this string builder can have before an allocation occurs.
 * In Kotlin/JS implementation
of StringBuilder the value returned from this method may not indicate the actual size of the backing storage.
 */
@SinceKotlin("1.3")
@ExperimentalStdlibApi
@Deprecated("Obtaining StringBuilder capacity is
not supported in JS and common code.", level = DeprecationLevel.ERROR)
actual fun capacity(): Int =
length

/**
 * Ensures that the capacity of this string builder is at least equal to the specified
[minimumCapacity].
 * If the current capacity is less than the [minimumCapacity], a new backing storage
is allocated with greater capacity.
 * Otherwise, this method takes no action and simply returns.
 * In
Kotlin/JS implementation of StringBuilder the size of the backing storage is not extended to comply the given
[minimumCapacity],
 * thus calling this method has no effect on the further performance of operations.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
actual fun
ensureCapacity(minimumCapacity: Int) {
}

/**
 * Returns the index within this string builder of the
first occurrence of the specified [string].
 * Returns -1 if the specified [string] does not occur in this
string builder.
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
actual
fun indexOf(string: String): Int = this.string.asDynamic().indexOf(string)

/**
 * Returns the index within
this string builder of the first occurrence of the specified [string],
 * starting at the specified [startIndex].
 * Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].
 */
@SinceKotlin("1.4")
@WasExperimental(ExperimentalStdlibApi::class)
actual fun indexOf(string:
String, startIndex: Int): Int = this.string.asDynamic().indexOf(string, startIndex)

/**
 * Returns the index
within this string builder of the last occurrence of the specified [string].
 * The last occurrence of empty string
`""` is considered to be at the index equal to `this.length`.
 * Returns -1 if the specified [string] does not

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occur in this string builder.\n    *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun lastIndexOf(string: String): Int =\n    this.string.asDynamic().lastIndexOf(string)\n\n    /**\n     * Returns the index within this string builder of the last\n     * occurrence of the specified [string],\n     * starting from the specified [startIndex] toward the beginning.\n     *\n     * Returns -1 if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n     *\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun\n    lastIndexOf(string: String, startIndex: Int): Int {\n        if (string.isEmpty() && startIndex < 0) return -1\n        return\n        this.string.asDynamic().lastIndexOf(string, startIndex)\n    }\n\n    /**\n     * Inserts the string representation of the\n     * specified boolean [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * The\n     * overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n     * and then\n     * that string was inserted into this string builder at the specified [index].\n     *\n     * @throws\n     * IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value:\n    Boolean): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string = string.substring(0,\n        index) + value + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts the specified character [value]\n     * into this string builder at the specified [index] and returns this instance.\n     *\n     * @throws\n     * IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value:\n    Char): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string = string.substring(0,\n        index) + value + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts characters in the specified\n     * character array [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * The\n     * inserted characters go in same order as in the [value] character array, starting at [index].\n     *\n     * @throws\n     * IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value:\n    CharArray): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string =\n        string.substring(0, index) + value.concatToString() + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and\n     * returns this instance.\n     *\n     * The inserted characters go in the same order as in the [value] character sequence,\n     * starting at [index].\n     *\n     * @param index the position in this string builder to insert at.\n     * @param value the\n     * character sequence from which characters are inserted. If [value] is `null`, then the four characters `\\null` are\n     * inserted.\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of\n     * this string builder.\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: CharSequence?): StringBuilder {\n        AbstractList.checkPositionIndex(index,\n        length)\n\n        string = string.substring(0, index) + value.toString() + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts the string representation of the specified object [value] into this string builder at the\n     * specified [index] and returns this instance.\n     *\n     * The overall effect is exactly as if the [value] were converted\n     * to a string by the `value.toString()` method,\n     * and then that string was inserted into this string builder at the\n     * specified [index].\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the\n     * length of this string builder.\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: Any?): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string = string.substring(0, index) + value.toString() +\n        string.substring(index)\n        return this\n    }\n\n    @Deprecated("Provided for binary compatibility.", level =\n    DeprecationLevel.HIDDEN)\n    fun insert(index: Int, value: String): StringBuilder = insert(index, value)\n\n    /**\n     * Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * If\n     * [value] is `null`, then the four characters `\\null` are inserted.\n     *\n     * @throws IndexOutOfBoundsException\n     * if [index] is less than zero or greater than the length of this string builder.\n     *\n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: String?): StringBuilder\n    {\n        AbstractList.checkPositionIndex(index, length)\n\n        val toInsert = value ?: "\\null"\n        this.string =

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this.string.substring(0, index) + toInsert + this.string.substring(index)\n    return this\n }\n\n /**\n * Sets
the length of this string builder to the specified [newLength].\n * \n * If the [newLength] is less than the current
length, it is changed to the specified [newLength].\n * Otherwise, null characters '\u0000' are appended to this
string builder until its length is less than the [newLength].\n * \n * Note that in Kotlin/JS [set] operator function
has non-constant execution time complexity.\n * Therefore, increasing length of this string builder and then
updating each character by index may slow down your program.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n * \n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun setLength(newLength:
Int) {\n    if (newLength < 0) {\n        throw IllegalArgumentException("Negative new length:
$newLength.")\n    }\n    if (newLength <= length) {\n        string = string.substring(0, newLength)\n    }
else {\n        for (i in length until newLength) {\n            string += "\u0000"\n        }\n    }\n }\n\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the
[length] (exclusive).\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater
than the length of this string builder.\n * \n * @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex: Int): String {\n
AbstractList.checkPositionIndex(startIndex, length)\n\n    return string.substring(startIndex)\n }\n\n /**\n *
Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the
[endIndex] (exclusive).\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * \n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex:
Int, endIndex: Int): String {\n    AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n\n    return
string.substring(startIndex, endIndex)\n }\n\n /**\n * Attempts to reduce storage used for this string builder.\n
* \n * If the backing storage of this string builder is larger than necessary to hold its current contents,\n * then
it may be resized to become more space efficient.\n * Calling this method may, but is not required to, affect the
value of the [capacity] property.\n * \n * In Kotlin/JS implementation of StringBuilder the size of the backing
storage is always equal to the length of the string builder.\n * \n * @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n actual fun trimToSize() {\n }\n\n override fun toString():
String = string\n\n /**\n * Clears the content of this string builder making it empty and returns this instance.\n
* \n * @sample samples.text.Strings.clearStringBuilder\n * \n * @SinceKotlin("1.3")\n public fun clear():
StringBuilder {\n    string = ""\n    return this\n }\n\n /**\n * Sets the character at the specified [index]
to the specified [value].\n * \n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string
builder.\n * \n * @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public
operator fun set(index: Int, value: Char) {\n    AbstractList.checkElementIndex(index, length)\n\n    string =
string.substring(0, index) + value + string.substring(index + 1)\n }\n\n /**\n * Replaces characters in the
specified range of this string builder with characters in the specified string [value] and returns this instance.\n
* \n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive)
of the range to replace.\n * @param value the string to replace with.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length
of this string builder, or `startIndex > endIndex`.\n * \n * @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n public fun setRange(startIndex: Int, endIndex: Int, value:
String): StringBuilder {\n    checkReplaceRange(startIndex, endIndex, length)\n\n    this.string =
this.string.substring(0, startIndex) + value + this.string.substring(endIndex)\n    return this\n }\n\n private fun
checkReplaceRange(startIndex: Int, endIndex: Int, length: Int) {\n    if (startIndex < 0 || startIndex > length) {\n
        throw IndexOutOfBoundsException("startIndex: $startIndex, length: $length")\n    }\n    if (startIndex >
endIndex) {\n        throw IllegalArgumentException("startIndex($startIndex) > endIndex($endIndex)")\n    }\n
}\n\n /**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n
* \n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove
the entire supplementary character.\n * \n * @param index the index of `Char` to remove.\n * \n * @throws

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IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n    *^n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public fun deleteAt(index: Int): StringBuilder {\n
AbstractList.checkElementIndex(index, length)\n\n    string = string.substring(0, index) + string.substring(index +\n1)\n    return this\n    }\n\n    /**\n    * Removes characters in the specified range from this string builder and\nreturns this instance.\n    *^n    * @param startIndex the beginning (inclusive) of the range to remove.\n    *^n    * @param endIndex the end (exclusive) of the range to remove.\n    *^n    * @throws IndexOutOfBoundsException\nor [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex >\nendIndex`.\n    *^n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public fun\ndeleteRange(startIndex: Int, endIndex: Int): StringBuilder {\n    checkReplaceRange(startIndex, endIndex,\nlength)\n\n    string = string.substring(0, startIndex) + string.substring(endIndex)\n    return this\n    }\n\n    /**\n    * Copies characters from this string builder into the [destination] character array.\n    *^n    * @param destination the array to copy to.\n    *^n    * @param destinationOffset the position in the array to copy to, 0 by default.\n    *^n    * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n    *^n    * @param endIndex the end\n(exclusive) of the range to copy, length of this string builder by default.\n    *^n    * @throws\nIndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this\nstring builder indices or when `startIndex > endIndex`.\n    *^n    * @throws IndexOutOfBoundsException when the\nsubrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n    *^n    * or when that index\nis out of the [destination] array indices range.\n    *^n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public fun toCharArray(destination: CharArray,\ndestinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) {\n
AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n
AbstractList.checkBoundsIndexes(destinationOffset, destinationOffset + endIndex - startIndex, destination.size)\n\n    var dstIndex = destinationOffset\n    for (index in startIndex until endIndex) {\n        destination[dstIndex++]\n= string[index]\n    }\n    }\n\n    /**\n    * Appends characters in a subarray of the specified character array\n[value] to this string builder and returns this instance.\n    *^n    * Characters are appended in order, starting at\nspecified [startIndex].\n    *^n    * @param value the array from which characters are appended.\n    *^n    * @param\nstartIndex the beginning (inclusive) of the subarray to append.\n    *^n    * @param endIndex the end (exclusive) of the\nsubarray to append.\n    *^n    * @throws IndexOutOfBoundsException or [IllegalArgumentException] when\n[startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n    *^n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public fun appendRange(value:\nCharArray, startIndex: Int, endIndex: Int): StringBuilder {\n    string += value.concatToString(startIndex,\nendIndex)\n    return this\n    }\n\n    /**\n    * Appends a subsequence of the specified character sequence [value]\nto this string builder and returns this instance.\n    *^n    * @param value the character sequence from which a\nsubsequence is appended.\n    *^n    * @param startIndex the beginning (inclusive) of the subsequence to append.\n    *^n    * @param\nendIndex the end (exclusive) of the subsequence to append.\n    *^n    * @throws\nIndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the\n[value] character sequence indices or when `startIndex > endIndex`.\n    *^n    @SinceKotlin("1.4")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public fun appendRange(value: CharSequence, startIndex:\nInt, endIndex: Int): StringBuilder {\n    val stringCsq = value.toString()\n
AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n\n    string +=\nstringCsq.substring(startIndex, endIndex)\n    return this\n    }\n\n    /**\n    * Inserts characters in a subarray of\nthe specified character array [value] into this string builder at the specified [index] and returns this instance.\n    *^n    * The inserted characters go in same order as in the [value] array, starting at [index].\n    *^n    * @param index\nthe position in this string builder to insert at.\n    *^n    * @param value the array from which characters are inserted.\n    *^n    *\n@param startIndex the beginning (inclusive) of the subarray to insert.\n    *^n    * @param endIndex the end (exclusive)\nof the subarray to insert.\n    *^n    * @throws IndexOutOfBoundsException or [IllegalArgumentException] when\n[startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n    *^n    *\n@throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n
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*/\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun
insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder {\n
AbstractList.checkPositionIndex(index, this.length)\n\n    string = string.substring(0, index) +
value.concatToString(startIndex, endIndex) + string.substring(index)\n    return this\n }\n\n /**\n * Inserts
characters in a subsequence of the specified character sequence [value] into this string builder at the specified
[index] and returns this instance.\n * \n * The inserted characters go in the same order as in the [value] character
sequence, starting at [index].\n * \n * @param index the position in this string builder to insert at.\n *
@param value the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning
(inclusive) of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is
out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun insertRange(index: Int,
value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder {\n    AbstractList.checkPositionIndex(index,
length)\n\n    val stringCsq = value.toString()\n    AbstractList.checkBoundsIndexes(startIndex, endIndex,
stringCsq.length)\n\n    string = string.substring(0, index) + stringCsq.substring(startIndex, endIndex) +
string.substring(index)\n    return this\n }\n}\n\n\n/**\n * Clears the content of this string builder making it
empty and returns this instance.\n * \n * @sample samples.text.Strings.clearStringBuilder\n */\n\n@SinceKotlin("1.3")\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER",
"NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.clear(): StringBuilder = this.clear()\n\n\n/**\n *
Sets the character at the specified [index] to the specified [value].\n * \n * @throws IndexOutOfBoundsException if
[index] is out of bounds of this string builder.\n */\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline operator fun
StringBuilder.set(index: Int, value: Char) = this.set(index, value)\n\n\n/**\n * Replaces characters in the specified
range of this string builder with characters in the specified string [value] and returns this instance.\n * \n * @param
startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to
replace.\n * @param value the string to replace with.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or
`startIndex > endIndex`.\n */\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder =\n    this.setRange(startIndex,
endIndex, value)\n\n\n/**\n * Removes the character at the specified [index] from this string builder and returns this
instance.\n * \n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not
remove the entire supplementary character.\n * \n * @param index the index of `Char` to remove.\n * \n * @throws
IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun StringBuilder.deleteAt(index:
Int): StringBuilder = this.deleteAt(index)\n\n\n/**\n * Removes characters in the specified range from this string
builder and returns this instance.\n * \n * @param startIndex the beginning (inclusive) of the range to remove.\n *
@param endIndex the end (exclusive) of the range to remove.\n * \n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex >
endIndex`.\n */\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA
DOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder = this.deleteRange(startIndex,
endIndex)\n\n\n/**\n * Copies characters from this string builder into the [destination] character array.\n * \n *

```



@param destination the array to copy to.\n \* @param destinationOffset the position in the array to copy to, 0 by default.\n \* @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n \* @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n \* \n \* @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n \* @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n \* or when that index is out of the [destination] array indices range.\n

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA\nDOWED_BY_MEMBER", "NOTHING_TO_INLINE")\n"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun\nStringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =\nthis.length) =\n    this.toCharArray(destination, destinationOffset, startIndex, endIndex)\n\n\n * Appends\ncharacters in a subarray of the specified character array [value] to this string builder and returns this instance.\n * \n * Characters are appended in order, starting at specified [startIndex].\n * \n * @param value the array from which\ncharacters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n * @param\nendIndex the end (exclusive) of the subarray to append.\n * \n * @throws IndexOutOfBoundsException or\n[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when\n`startIndex > endIndex`.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA\nDOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun\nStringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\nthis.appendRange(value, startIndex, endIndex)\n\n\n * Appends a subsequence of the specified character\nsequence [value] to this string builder and returns this instance.\n * \n * @param value the character sequence from\nwhich a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * \n * @param endIndex the end (exclusive) of the subsequence to append.\n * \n * @throws\nIndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the\n[value] character sequence indices or when `startIndex > endIndex`.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA\nDOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun\nStringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\nthis.appendRange(value, startIndex, endIndex)\n\n\n * Inserts characters in a subarray of the specified character\narray [value] into this string builder at the specified [index] and returns this instance.\n * \n * The inserted characters\ngo in same order as in the [value] array, starting at [index].\n * \n * @param index the position in this string builder\nto insert at.\n * @param value the array from which characters are inserted.\n * @param startIndex the beginning\n(inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of the subarray to insert.\n * \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of\nrange of the [value] array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if\n[index] is less than zero or greater than the length of this string builder.\n
```

```
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("EXTENSION_SHA\nDOWED_BY_MEMBER", "NOTHING_TO_INLINE")\npublic actual inline fun\nStringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\nthis.insertRange(index, value, startIndex, endIndex)\n\n\n * Inserts characters in a subsequence of the specified\ncharacter sequence [value] into this string builder at the specified [index] and returns this instance.\n * \n * The\ninserted characters go in the same order as in the [value] character sequence, starting at [index].\n * \n * @param\nindex the position in this string builder to insert at.\n * @param value the character sequence from which a\nsubsequence is inserted.\n * @param startIndex the beginning (inclusive) of the subsequence to insert.\n * @param\nendIndex the end (exclusive) of the subsequence to insert.\n * \n * @throws IndexOutOfBoundsException or\n[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence\n
```

indices or when `startIndex > endIndex`. \n \* @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder. \n

```

*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress("\nEXTENSION_SHADOWED_BY_MEMBER", "\nNOTHING_TO_INLINE")\npublic actual inline fun
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder = \n
this.insertRange(index, value, startIndex, endIndex)\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Returns `true` if the content of this
string is equal to the word `true`, ignoring case, and `false` otherwise.\n */\n@Deprecated("\nUse Kotlin compiler
1.4 to avoid deprecation warning.")\n@DeprecatedSinceKotlin(hiddenSince =
"1.4")\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toBoolean(): Boolean =
this.toBoolean()\n\n/**\n * Returns `true` if this string is not `null` and its content is equal to the word `true`,
ignoring case, and `false` otherwise.\n */\n * There are also strict versions of the function available on non-nullable
String, [toBooleanStrict] and [toBooleanStrictOrNull].\n */\n@SinceKotlin("1.4")\npublic actual fun
String?.toBoolean(): Boolean = this != null && this.lowercase() == `true`\n\n/**\n * Parses the string as a signed
[Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toByte(): Byte = toByteOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toByte(radix: Int): Byte = toByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a
[Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toShort(): Short = toShortOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toShort(radix: Int): Short = toShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as
an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toInt(): Int = toIntOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toInt(radix: Int): Int = toIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long]
number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n */\npublic actual fun String.toLong(): Long = toLongOrNull() ?: numberFormatError(this)\n\n/**\n *
Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not
a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for
string to number conversion.\n */\npublic actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Double] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun
String.toDouble(): Double = +(this.asDynamic()).unsafeCast<Double>().also { \n if (it.isNaN() && !this.isNaN()
|| it == 0.0 && this.isBlank())\n numberFormatError(this)\n\n/**\n * Parses the string as a [Float] number
and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloat(): Float =
toDouble().unsafeCast<Float>()\n\n/**\n * Parses the string as a [Double] number and returns the result\n * or `null`
if the string is not a valid representation of a number.\n */\npublic actual fun String.toDoubleOrNull(): Double? =
+(this.asDynamic()).unsafeCast<Double>().takeIf { \n !(it.isNaN() && !this.isNaN() || it == 0.0 &&
this.isBlank())\n}\n\n/**\n * Parses the string as a [Float] number and returns the result\n * or `null` if the string is

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not a valid representation of a number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.toFloatOrNull(): Float? = toDoubleOrNull().unsafeCast<Float?>()\n\n/**\n * Returns a string representation
of this [Byte] value in the specified [radix].\n */\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual
inline fun Byte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of
this [Short] value in the specified [radix].\n */\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual
inline fun Short.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of
this [Int] value in the specified [radix].\n */\n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\npublic actual fun Int.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\n\nprivate fun String.isNaN(): Boolean = when (this.lowercase()) {\n
\n"nan", "+nan", "-nan" -> true\n else -> false\n}\n\n/**\n * Checks whether the given [radix] is valid radix for
string to number and number to string conversion.\n */\n@PublishedApi\ninternal actual fun checkRadix(radix: Int):
Int {\n if (radix !in 2..36) {\n throw IllegalArgumentException("radix $radix was not in valid range 2..36")\n
}\n return radix\n}\n\ninternal actual fun digitOf(char: Char, radix: Int): Int = when {\n char >= '0' && char <=
'9' -> char - '0'\n char >= 'A' && char <= 'Z' -> char - 'A' + 10\n char >= 'a' && char <= 'z' -> char - 'a' + 10\n
char < '\u0080' -> -1\n char >= '\uFF21' && char <= '\uFF3A' -> char - '\uFF21' + 10 // full-width latin capital
letter\n char >= '\uFF41' && char <= '\uFF5A' -> char - '\uFF41' + 10 // full-width latin small letter\n else ->
char.digitToIntImpl()\n}.let { if (it >= radix) -1 else it }\n\n", "\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport kotlin.js.RegExp\n\n/**\n * Provides
enumeration values to use to set regular expression options.\n */\npublic actual enum class RegexOptions(val value:
String) {\n /** Enables case-insensitive matching. */\n IGNORE_CASE("i"),\n /** Enables multiline
mode.\n */\n * In multiline mode the expressions `^` and `$` match just after or just before,\n */\n * respectively, a
line terminator or the end of the input sequence. */\n MULTILINE("m")\n}\n\nprivate fun
Iterable<RegexOption>.toFlags(prepend: String): String = joinToString("\\", prefix = prepend) { it.value
}\n\n/**\n * Represents the results from a single capturing group within a [MatchResult] of [Regex].\n */\n *
@param value The value of captured group.\n */\npublic actual data class MatchGroup(actual val value:
String)\n\n/**\n * Represents a compiled regular expression.\n */\n * Provides functions to match strings in text with a
pattern, replace the found occurrences and split text around matches.\n */\n * For pattern syntax reference see [MDN
RegExp](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp#Special_characters_meaning_in_regular_expressions)\n
*/\n * and
[http://www.w3schools.com/jsref/jsref_obj_regexp.asp](https://www.w3schools.com/jsref/jsref_obj_regexp.asp).\n
*/\n * Note that `RegExp` objects under the hood are constructed with [the `u`
flag](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp/unicode)\n */\n * that
enables Unicode-related features in regular expressions. This also makes the pattern syntax more strict,\n */\n * for
example, prohibiting unnecessary escape sequences.\n */\n * @constructor Creates a regular expression from the
specified [pattern] string and the specified set of [options].\n */\npublic actual class Regex actual
constructor(pattern: String, options: Set<RegexOption>) {\n /** Creates a regular expression from the specified
[pattern] string and the specified single [option]. */\n public actual constructor(pattern: String, option:
RegexOption) : this(pattern, setOf(option))\n /** Creates a regular expression from the specified [pattern] string
and the default options. */\n public actual constructor(pattern: String) : this(pattern, emptySet())\n\n /** The
pattern string of this regular expression. */\n public actual val pattern: String = pattern\n /** The set of options
that were used to create this regular expression. */\n public actual val options: Set<RegexOption> =
options.toSet()\n private val nativePattern: RegExp = RegExp(pattern, options.toFlags("gu"))\n private var
nativeStickyPattern: RegExp? = null\n private fun initStickyPattern(): RegExp =\n nativeStickyPattern ?:
RegExp(pattern, options.toFlags("yu")).also { nativeStickyPattern = it }\n\n private var

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nativeMatchesEntirePattern: RegExp? = null\n private fun initMatchesEntirePattern(): RegExp =\n
nativeMatchesEntirePattern ?: run {\n     if (pattern.startsWith('^') && pattern.endsWith('$'))\n
nativePattern\n         else\n             return RegExp("^${pattern.trimStart('^').trimEnd('$')}$",
options.toFlags("\\gu"))\n     }.also { nativeMatchesEntirePattern = it }\n\n /** Indicates whether the regular
expression matches the entire [input]. */\n public actual infix fun matches(input: CharSequence): Boolean {\n
nativePattern.reset()\n     val match = nativePattern.exec(input.toString())\n     return match != null &&
match.index == 0 && nativePattern.lastIndex == input.length\n } \n\n /** Indicates whether the regular
expression can find at least one match in the specified [input]. */\n public actual fun containsMatchIn(input:
CharSequence): Boolean {\n     nativePattern.reset()\n     return nativePattern.test(input.toString())\n }\n\n
@SinceKotlin("1.5")\n @ExperimentalStdlibApi\n public actual fun matchesAt(input: CharSequence, index:
Int): Boolean {\n     if (index < 0 || index > input.length) {\n         throw IndexOutOfBoundsException("index
out of bounds: $index, input length: ${input.length}")\n     }\n     val pattern = initStickyPattern()\n
pattern.lastIndex = index\n     return pattern.test(input.toString())\n }\n\n /**\n * Returns the first match of a
regular expression in the [input], beginning at the specified [startIndex].\n * \n * @param startIndex An index to
start search with, by default 0. Must be not less than zero and not greater than `input.length()`\n * @return An
instance of [MatchResult] if match was found or `null` otherwise.\n * @throws IndexOutOfBoundsException if
[startIndex] is less than zero or greater than the length of the [input] char sequence.\n * @sample
samples.text.Regexps.find\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun find(input:
CharSequence, startIndex: Int = 0): MatchResult? {\n     if (startIndex < 0 || startIndex > input.length) {\n
throw IndexOutOfBoundsException("Start index out of bounds: $startIndex, input length: ${input.length}")\n
}\n     return nativePattern.findNext(input.toString(), startIndex, nativePattern)\n }\n\n /**\n * Returns a
sequence of all occurrences of a regular expression within the [input] string, beginning at the specified
[startIndex].\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the
length of the [input] char sequence.\n * \n * @sample samples.text.Regexps.findAll\n */\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual fun findAll(input:
CharSequence, startIndex: Int = 0): Sequence<MatchResult> {\n     if (startIndex < 0 || startIndex > input.length)
{\n         throw IndexOutOfBoundsException("Start index out of bounds: $startIndex, input length:
${input.length}")\n     }\n     return generateSequence({ find(input, startIndex) }, { match -> match.next() })\n
}\n\n /**\n * Attempts to match the entire [input] CharSequence against the pattern.\n * \n * @return An
instance of [MatchResult] if the entire input matches or `null` otherwise.\n */\n public actual fun
matchEntire(input: CharSequence): MatchResult? =\n     initMatchesEntirePattern().findNext(input.toString(), 0,
nativePattern)\n\n @SinceKotlin("1.5")\n @ExperimentalStdlibApi\n public actual fun matchAt(input:
CharSequence, index: Int): MatchResult? {\n     if (index < 0 || index > input.length) {\n         throw
IndexOutOfBoundsException("index out of bounds: $index, input length: ${input.length}")\n     }\n     return
initStickyPattern().findNext(input.toString(), index, nativePattern)\n }\n\n\n /**\n * Replaces all occurrences
of this regular expression in the specified [input] string with specified [replacement] expression.\n * \n * The
replacement string may contain references to the captured groups during a match. Occurrences of `$index`\n * in
the replacement string will be substituted with the subsequences corresponding to the captured groups with the
specified index.\n * \n * The first digit after '$' is always treated as part of group reference. Subsequent digits
are incorporated\n * into `index` only if they would form a valid group reference. Only the digits '0'..'9' are considered
as potential components\n * of the group reference. Note that indexes of captured groups start from 1, and the
group with index 0 is the whole match.\n * \n * Backslash character '\\' can be used to include the succeeding
character as a literal in the replacement string, e.g. '\\$' or '\\\\\\'.\n * [Regex.escapeReplacement] can be used if
[replacement] have to be treated as a literal string.\n * \n * Note that referring named capturing groups by name
is currently not supported in Kotlin/JS.\n * \n * However, you can still refer them by index.\n * \n * @param input
the char sequence to find matches of this regular expression in\n * @param replacement the expression to replace
found matches with\n * @return the result of replacing each occurrence of this regular expression in [input] with

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the result of evaluating the [replacement] expression\n
 * @throws RuntimeException if [replacement] expression
is malformed, or capturing group with specified `name` or `index` does not exist\n
 */\n
public actual fun
replace(input: CharSequence, replacement: String): String {\n
    if (!replacement.contains("\\\\") &&
!replacement.contains('$')) {\n
        return input.toString().nativeReplace(nativePattern, replacement)\n
    }\n
return replace(input) { substituteGroupRefs(it, replacement) }\n
}\n
/**\n
 * Replaces all occurrences of this
regular expression in the specified [input] string with the result of\n
 * the given function [transform] that takes
[MatchResult] and returns a string to be used as a\n
 * replacement for that match.\n
 */\n
public actual fun
replace(input: CharSequence, transform: (MatchResult) -> CharSequence): String {\n
    var match = find(input)\n
    if (match == null) return input.toString()\n
    var lastStart = 0\n
    val length = input.length\n
    val sb =
StringBuilder(length)\n
    do {\n
        val foundMatch = match!!\n
        sb.append(input, lastStart,
foundMatch.range.start)\n
        sb.append(transform(foundMatch))\n
        lastStart =
foundMatch.range.endInclusive + 1\n
        match = foundMatch.next()\n
    } while (lastStart < length && match
!= null)\n
    if (lastStart < length) {\n
        sb.append(input, lastStart, length)\n
    }\n
return
sb.toString()\n
}\n
/**\n
 * Replaces the first occurrence of this regular expression in the specified [input]
string with specified [replacement] expression.\n
 * The replacement string may contain references to the
captured groups during a match. Occurrences of `$index`\n
 * in the replacement string will be substituted with the
subsequences corresponding to the captured groups with the specified index.\n
 * The first digit after '$' is always
treated as part of group reference. Subsequent digits are incorporated\n
 * into `index` only if they would form a
valid group reference. Only the digits '0'..'9' are considered as potential components\n
 * of the group reference.
Note that indexes of captured groups start from 1, and the group with index 0 is the whole match.\n
 * \n
 * Backslash character '\\' can be used to include the succeeding character as a literal in the replacement string, e.g, '\\\$`
or '\\\\'.\n
 * [Regex.escapeReplacement] can be used if [replacement] have to be treated as a literal string.\n
 * \n
 * Note that referring named capturing groups by name is not supported currently in Kotlin/JS.\n
 * However, you
can still refer them by index.\n
 * \n
 * @param input the char sequence to find a match of this regular expression
in\n
 * @param replacement the expression to replace the found match with\n
 * @return the result of replacing
the first occurrence of this regular expression in [input] with the result of evaluating the [replacement] expression\n
 * @throws RuntimeException if [replacement] expression is malformed, or capturing group with specified `name`
or `index` does not exist\n
 */\n
public actual fun replaceFirst(input: CharSequence, replacement: String): String
{\n
    if (!replacement.contains("\\\\") && !replacement.contains('$')) {\n
        val nonGlobalOptions =
options.toFlags("\\u")\n
        return input.toString().nativeReplace(RegExp(pattern, nonGlobalOptions),
replacement)\n
    }\n
    val match = find(input) ?: return input.toString()\n
    return buildString {\n
append(input.substring(0, match.range.first))\n
        append(substituteGroupRefs(match, replacement))\n
append(input.substring(match.range.last + 1, input.length))\n
    }\n
}\n
/**\n
 * Splits the [input]
CharSequence to a list of strings around matches of this regular expression.\n
 * \n
 * @param limit Non-negative
value specifying the maximum number of substrings the string can be split to.\n
 * Zero by default means no limit
is set.\n
 * \n
 * @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n
public actual fun
split(input: CharSequence, limit: Int = 0): List<String> {\n
    requireNonNegativeLimit(limit)\n
    val matches =
findAll(input).let { if (limit == 0) it else it.take(limit - 1) }\n
    val result = mutableListOf<String>()\n
    var
lastStart = 0\n
    for (match in matches) {\n
        result.add(input.subSequence(lastStart,
match.range.start).toString())\n
        lastStart = match.range.endInclusive + 1\n
    }\n
result.add(input.subSequence(lastStart, input.length).toString())\n
    return result\n
}\n
/**\n
 * Splits the
[input] CharSequence to a sequence of strings around matches of this regular expression.\n
 * \n
 * @param limit
Non-negative value specifying the maximum number of substrings the string can be split to.\n
 * Zero by default
means no limit is set.\n
 * \n
 * @sample samples.text.Regexps.splitToSequence\n
 * \n
 * @SinceKotlin("1.6")\n
@WasExperimental(ExperimentalStdlibApi::class)\n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n
public actual fun
splitToSequence(input: CharSequence, limit: Int = 0): Sequence<String> {\n
    requireNonNegativeLimit(limit)\n
    return sequence {\n
        var match = find(input)\n
        if (match ==

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null || limit == 1) {\n        yield(input.toString())\n        return@sequence\n    }\n\n    var\n    nextStart = 0\n    var splitCount = 0\n    do {\n        val foundMatch = match!!\n        yield(input.substring(nextStart, foundMatch.range.first))\n        nextStart = foundMatch.range.endInclusive +\n        1\n        match = foundMatch.next()\n    } while (++splitCount != limit - 1 && match != null)\n    yield(input.substring(nextStart, input.length))\n    }\n}\n\n/**\n * Returns the string representation of\n this regular expression, namely the [pattern] of this regular expression.\n *\n * Note that another regular\n expression constructed from the same pattern string may have different [options]\n * and may match strings\n differently.\n *\n public override fun toString(): String = nativePattern.toString()\n\n actual companion object\n {\n     /**\n     * Returns a regular expression that matches the specified [literal] string literally.\n     * No\n     characters of that string will have special meaning when searching for an occurrence of the regular expression.\n     *\n     public override fun fromLiteral(literal: String): Regex = Regex(escape(literal))\n\n     actual fun fromLiteral(literal: String): Regex = Regex(escape(literal))\n\n     /**\n     * Returns a\n     regular expression pattern string that matches the specified [literal] string literally.\n     * No characters of that\n     string will have special meaning when searching for an occurrence of the regular expression.\n     *\n     public\n     actual fun escape(literal: String): String = literal.nativeReplace(patternEscape, "\\|\\|\\$&\\|")\n\n     /**\n     *\n     Returns a literal replacement expression for the specified [literal] string.\n     * No characters of that string will\n     have special meaning when it is used as a replacement string in [Regex.replace] function.\n     *\n     public\n     actual fun escapeReplacement(literal: String): String = literal.nativeReplace(replacementEscape, "\\|\\|\\$&\\|")\n\n     private val patternEscape = Regex("\\\\|\\\\\\^$*+?.()\\\\\\\\|}]"")\n     private val replacementEscape =\n     Regex("\\\\|\\\\\\|\\\\\\|\\\\\\$|\\\\\\|\\\\\\|", "g")\n     internal fun nativeEscapeReplacement(literal: String): String =\n     literal.nativeReplace(nativeReplacementEscape, "\\|\\|\\$&\\|")\n     private val nativeReplacementEscape =\n     Regex("\\\\|\\\\\\|\\\\\\|\\\\\\$|\\\\\\|\\\\\\|", "g")\n     }\n}\n\nprivate fun Regex.findNext(input: String, from: Int, nextPattern:\n Regex): MatchResult? {\n    this.lastIndex = from\n    val match = exec(input)\n    if (match == null) return null\n    val range = match.index..lastIndex - 1\n    return object : MatchResult {\n        override val range: IntRange =\n        range\n        override val value: String\n        get() = match[0]!\n        override val groups:\n        MatchGroupCollection = object : MatchGroupCollection, AbstractCollection<MatchGroup?>() {\n            override\n            val size: Int\n            get() = match.length\n            override fun iterator(): Iterator<MatchGroup?> =\n            indices.asSequence().map { this[it] }.iterator()\n            override fun get(index: Int): MatchGroup? =\n            match[index]?.let { MatchGroup(it) }\n        }\n\n        private var groupValues_: List<String?> = null\n\n        override val groupValues: List<String>\n        get() {\n            if (groupValues_ == null) {\n                groupValues_ = object : AbstractList<String>() {\n                    override val size: Int\n                    get() = match.length\n                    override fun get(index: Int): String = match[index] ? : ""\n                }\n                groupValues_!!\n            }\n            override fun next(): MatchResult? =\n            nextPattern.findNext(input, if\n            (range.isEmpty()) advanceToNextCharacter(range.start) else range.endInclusive + 1, nextPattern)\n\n            private\n            fun advanceToNextCharacter(index: Int): Int {\n                if (index < input.lastIndex) {\n                    val code1 =\n                    input.asDynamic().charCodeAt(index).unsafeCast<Int>()\n                    if (code1 in 0xD800..0xDBFF) {\n                        val code2 = input.asDynamic().charCodeAt(index + 1).unsafeCast<Int>()\n                        if (code2 in\n                        0xDC00..0xDFFF) {\n                            return index + 2\n                        }\n                    }\n                }\n                return index +\n                1\n            }\n        }\n}\n\n// The same code from K/N Regex.kt\nprivate fun substituteGroupRefs(match: MatchResult,\n replacement: String): String {\n    var index = 0\n    val result = StringBuilder(replacement.length)\n    while\n    (index < replacement.length) {\n        val char = replacement[index++]\n        if (char == '\\|') {\n            if (index ==\n            replacement.length)\n                throw IllegalArgumentException("The Char to be escaped is missing")\n            result.append(replacement[index++])\n        } else if (char == '$') {\n            if (index == replacement.length)\n                throw IllegalArgumentException("Capturing group index is missing")\n            if (replacement[index] == '{')\n                throw IllegalArgumentException("Named capturing group reference currently is not supported")\n            if (replacement[index] !in '0'..'9')\n                throw IllegalArgumentException("Invalid capturing group\n            reference")\n            val endIndex = replacement.readGroupIndex(index, match.groupValues.size)\n            val\n            groupIndex = replacement.substring(index, endIndex).toInt()\n            if (groupIndex >=\n            match.groupValues.size)\n                throw IndexOutOfBoundsException("Group with index $groupIndex does not

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exist())\n\n        result.append(match.groupValues[groupIndex])\n        index = endIndex\n    } else {\n    result.append(char)\n    }\n    }\n    return result.toString()\n}\n\nprivate fun String.readGroupIndex(startIndex:
Int, groupCount: Int): Int {\n    // at least one digit after '$' is always captured\n    var index = startIndex + 1\n    var
groupIndex = this[startIndex] - '0'\n\n    // capture the largest valid group index\n    while (index < length &&
this[index] in '0'..'9') {\n        val newGroupIndex = (groupIndex * 10) + (this[index] - '0')\n        if (newGroupIndex
in 0 until groupCount) {\n            groupIndex = newGroupIndex\n            index++\n        } else {\n            break\n
        }\n    }\n    return index\n}"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n@file:Suppress("EXTENSI
ON_SHADOWED_BY_MEMBER")\n\npackage kotlin.text\n\nimport kotlin.contracts.*\n\n/**\n * A mutable
sequence of characters.\n *\n * String builder can be used to efficiently perform multiple string manipulation
operations.\n *\n * expect class StringBuilder : Appendable, CharSequence {\n    /** Constructs an empty string
builder. *\n    constructor()\n\n    /** Constructs an empty string builder with the specified initial [capacity]. *\n
constructor(capacity: Int)\n\n    /** Constructs a string builder that contains the same characters as the specified
[content] char sequence. *\n    constructor(content: CharSequence)\n\n    /** Constructs a string builder that
contains the same characters as the specified [content] string. *\n    @SinceKotlin("1.3")\n\n    @ExperimentalStdlibApi\n    constructor(content: String)\n\n    override val length: Int\n\n    override operator fun
get(index: Int): Char\n\n    override fun subSequence(startIndex: Int, endIndex: Int): CharSequence\n\n    override
fun append(value: Char): StringBuilder\n    override fun append(value: CharSequence?): StringBuilder\n    override
fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder\n\n    /**\n     * Reverses the
contents of this string builder and returns this instance.\n     *\n     * Surrogate pairs included in this string builder
are treated as single characters.\n     * Therefore, the order of the high-low surrogates is never reversed.\n     *\n     * Note that the reverse operation may produce new surrogate pairs that were unpaired low-surrogates and high-
surrogates before the operation.\n     * For example, reversing `"\uDC00\uD800"` produces `"\uD800\uDC00"`
which is a valid surrogate pair.\n     *\n     * fun reverse(): StringBuilder\n\n     /**\n     * Appends the string
representation of the specified object [value] to this string builder and returns this instance.\n     *\n     * The overall
effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n     * and then that
string was appended to this string builder.\n     *\n     * fun append(value: Any?): StringBuilder\n\n     /**\n     *
Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n
     *\n     * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n
     * and then that string was appended to this string builder.\n     *\n     * @SinceKotlin("1.3")\n     fun append(value:
Boolean): StringBuilder\n\n     /**\n     * Appends characters in the specified character array [value] to this string
builder and returns this instance.\n     *\n     * Characters are appended in order, starting at the index 0.\n     *\n
     * @SinceKotlin("1.4")\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun append(value: CharArray):
StringBuilder\n\n     /**\n     * Appends the specified string [value] to this string builder and returns this instance.\n
     *\n     * If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are appended.\n     *\n     * @SinceKotlin("1.3")\n     fun append(value: String?): StringBuilder\n\n     /**\n     * Returns the current capacity of this string builder.\n     *\n     * The capacity is the maximum length this string builder can have before an allocation occurs.\n     *\n
     * @SinceKotlin("1.3")\n     @ExperimentalStdlibApi\n     @Deprecated("Obtaining StringBuilder capacity is not
supported in JS and common code.", level = DeprecationLevel.ERROR)\n     fun capacity(): Int\n\n     /**\n     *
Ensures that the capacity of this string builder is at least equal to the specified [minimumCapacity].\n     *\n     * If
the current capacity is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.\n
     * Otherwise, this method takes no action and simply returns.\n     *\n     * @SinceKotlin("1.4")\n\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun ensureCapacity(minimumCapacity: Int)\n\n     /**\n     *
Returns the index within this string builder of the first occurrence of the specified [string].\n     *\n     * Returns `-1`
if the specified [string] does not occur in this string builder.\n     *\n     * @SinceKotlin("1.4")\n\n     @WasExperimental(ExperimentalStdlibApi::class)\n     fun indexOf(string: String): Int\n\n     /**\n     * Returns the

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index within this string builder of the first occurrence of the specified [string],\n * starting at the specified
[startIndex].\n *\n * Returns -1 if the specified [string] does not occur in this string builder starting at the
specified [startIndex].\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun indexOf(string: String, startIndex: Int): Int\n\n /**\n * Returns the index within this string builder of the last
occurrence of the specified [string].\n * The last occurrence of empty string `""` is considered to be at the index
equal to `this.length`.\n *\n * Returns -1 if the specified [string] does not occur in this string builder.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String):
Int\n\n /**\n * Returns the index within this string builder of the last occurrence of the specified [string],\n *
starting from the specified [startIndex] toward the beginning.\n *\n * Returns -1 if the specified [string] does
not occur in this string builder starting at the specified [startIndex].\n *\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun lastIndexOf(string: String, startIndex: Int): Int\n\n
/**\n * Inserts the string representation of the specified boolean [value] into this string builder at the specified
[index] and returns this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string
by the `value.toString()` method,\n * and then that string was inserted into this string builder at the specified
[index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of
this string builder.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun
insert(index: Int, value: Boolean): String\n\n /**\n * Inserts the specified character [value] into this
string builder at the specified [index] and returns this instance.\n *\n * @throws IndexOutOfBoundsException
if [index] is less than zero or greater than the length of this string builder.\n *\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: Char): String\n\n /**\n
* Inserts characters in the specified character array [value] into this string builder at the specified [index] and
returns this instance.\n *\n * The inserted characters go in same order as in the [value] character array, starting
at [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length
of this string builder.\n *\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
fun insert(index: Int, value: CharArray): String\n\n /**\n * Inserts characters in the specified character
sequence [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted
characters go in the same order as in the [value] character sequence, starting at [index].\n *\n * @param index
the position in this string builder to insert at.\n * @param value the character sequence from which characters are
inserted. If [value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are inserted.\n *\n * @throws
IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n *\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value:
CharSequence?): String\n\n /**\n * Inserts the string representation of the specified object [value] into
this string builder at the specified [index] and returns this instance.\n *\n * The overall effect is exactly as if
the [value] were converted to a string by the `value.toString()` method,\n * and then that string was inserted into
this string builder at the specified [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than
zero or greater than the length of this string builder.\n *\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: Any?): String\n\n /**\n
* Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n *\n * If
[value] is `null`, then the four characters `"\u0000\u0000\u0000\u0000"` are inserted.\n *\n * @throws IndexOutOfBoundsException
if [index] is less than zero or greater than the length of this string builder.\n *\n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun insert(index: Int, value: String?): String\n\n
/**\n * Sets the length of this string builder to the specified [newLength].\n *\n * If the [newLength] is less
than the current length, it is changed to the specified [newLength].\n * Otherwise, null characters `'\u0000'` are
appended to this string builder until its length is less than the [newLength].\n *\n * Note that in Kotlin/JS [set]
operator function has non-constant execution time complexity.\n * Therefore, increasing length of this string
builder and then updating each character by index may slow down your program.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n *\n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun setLength(newLength:

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Int)\n\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive)
and up to the [length] (exclusive).\n * \n * @throws IndexOutOfBoundsException if [startIndex] is less than
zero or greater than the length of this string builder.\n * \n @SinceKotlin("1.4")\n
@WasExperimental(ExperimentalStdlibApi::class)\n fun substring(startIndex: Int): String\n\n /**\n * Returns
a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex]
(exclusive).\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex]
or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * \n
@SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n fun substring(startIndex: Int,
endIndex: Int): String\n\n /**\n * Attempts to reduce storage used for this string builder.\n * \n * If the
backing storage of this string builder is larger than necessary to hold its current contents,\n * then it may be
resized to become more space efficient.\n * Calling this method may, but is not required to, affect the value of the
[capacity] property.\n * \n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n
fun trimToSize()\n}\n\n\n/**\n * Clears the content of this string builder making it empty and returns this instance.\n
*\n * @sample samples.text.Strings.clearStringBuilder\n * \n @SinceKotlin("1.3")\n\npublic expect fun
StringBuilder.clear(): StringBuilder\n\n/**\n * Sets the character at the specified [index] to the specified [value].\n
*\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic expect operator fun
StringBuilder.set(index: Int, value: Char)\n\n/**\n * Replaces characters in the specified range of this string builder
with characters in the specified string [value] and returns this instance.\n * \n * @param startIndex the beginning
(inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param
value the string to replace with.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if
[startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic expect fun
StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder\n\n/**\n * Removes the
character at the specified [index] from this string builder and returns this instance.\n * \n * If the `Char` at the
specified [index] is part of a supplementary code point, this method does not remove the entire supplementary
character.\n * \n * @param index the index of `Char` to remove.\n * \n * @throws IndexOutOfBoundsException if
[index] is out of bounds of this string builder.\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic expect fun
StringBuilder.deleteAt(index: Int): StringBuilder\n\n/**\n * Removes characters in the specified range from this
string builder and returns this instance.\n * \n * @param startIndex the beginning (inclusive) of the range to
remove.\n * @param endIndex the end (exclusive) of the range to remove.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder
indices or when `startIndex > endIndex`.\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic expect fun
StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Copies characters from this
string builder into the [destination] character array.\n * \n * @param destination the array to copy to.\n * @param
destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive)
of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this
string builder by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when
[startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n *
@throws
IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified
[destinationOffset],\n * or when that index is out of the [destination] array indices range.\n
*\n @SinceKotlin("1.4")\n @WasExperimental(ExperimentalStdlibApi::class)\n\npublic expect fun
StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
this.length)\n\n/**\n * Appends characters in a subarray of the specified character array [value] to this string builder
and returns this instance.\n * \n * Characters are appended in order, starting at specified [startIndex].\n * \n * @param
value the array from which characters are appended.\n * @param startIndex the beginning (inclusive) of the

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subarray to append.\n * @param endIndex the end (exclusive) of the subarray to append.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] array indices or when `startIndex > endIndex`.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Appends a
subsequence of the specified character sequence [value] to this string builder and returns this instance.\n *\n *
@param value the character sequence from which a subsequence is appended.\n * @param startIndex the beginning
(inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out
of range of the [value] character sequence indices or when `startIndex > endIndex`.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Inserts
characters in a subarray of the specified character array [value] into this string builder at the specified [index] and
returns this instance.\n *\n * The inserted characters go in same order as in the [value] array, starting at [index].\n
*\n * @param index the position in this string builder to insert at.\n * @param value the array from which characters
are inserted.\n * @param startIndex the beginning (inclusive) of the subarray to insert.\n * @param endIndex the
end (exclusive) of the subarray to insert.\n *\n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when
`startIndex > endIndex`.\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the
length of this string builder.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n *
Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the
specified [index] and returns this instance.\n *\n * The inserted characters go in the same order as in the [value]
character sequence, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n *
@param value the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning
(inclusive) of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n
*\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of the [value] character sequence indices or when `startIndex > endIndex`.\n *\n * @throws IndexOutOfBoundsException if
[index] is less than zero or greater than the length of this string builder.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int):
StringBuilder\n\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER")\n@Deprecated("Use
append(value: Any?) instead", ReplaceWith("append(value = obj)")),
DeprecationLevel.WARNING)\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.append(obj: Any?):
StringBuilder = this.append(obj)\n\n/**\n * Builds new string by populating newly created [StringBuilder] using
provided [builderAction]\n * and then converting it to [String].\n *\n@kotlin.internal.InlineOnly\npublic inline fun
buildString(builderAction: String Builder.() -> Unit): String {\n    contract { callsInPlace(builderAction,
InvocationKind.EXACTLY_ONCE) }\n    return StringBuilder().apply(builderAction).toString()\n}\n\n/**\n *
Builds new string by populating newly created [StringBuilder] initialized with the given [capacity]\n * using
provided [builderAction] and then converting it to [String].\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int, builderAction:
String Builder.() -> Unit): String {\n    contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE)
}\n    return StringBuilder(capacity).apply(builderAction).toString()\n}\n\n/**\n * Appends all arguments to the
given String Builder.\n *\n@public fun StringBuilder.append(vararg value: String?): String Builder {\n    for (item in
value)\n        append(item)\n    return this\n}\n\n/**\n * Appends all arguments to the given String Builder.\n
*\n@public fun StringBuilder.append(vararg value: Any?): String Builder {\n    for (item in value)\n        append(item)\n    return this\n}\n\n/**\n * Appends a line feed character (`\n`) to this String Builder.

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*\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine():
StringBuilder = append("\n")\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character
(`\n`). */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value:
CharSequence?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder],
followed by a line feed character (`\n`). */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: String?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to
this [StringBuilder], followed by a line feed character (`\n`). */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Any?):
StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed
character (`\n`). */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: CharArray): StringBuilder = append(value).appendLine()\n\n/** Appends [value]
to this [StringBuilder], followed by a line feed character (`\n`). */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Char):
StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed
character (`\n`). */\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
StringBuilder.appendLine(value: Boolean): StringBuilder = append(value).appendLine()\n\n/** * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport
kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\n\ninternal actual inline fun String.nativeIndexOf(ch: Char,
fromIndex: Int): Int = nativeIndexOf(ch.toString(), fromIndex)\n\n@kotlin.internal.InlineOnly\n\ninternal actual
inline fun String.nativeLastIndexOf(ch: Char, fromIndex: Int): Int = nativeLastIndexOf(ch.toString(),
fromIndex)\n\n/**\n * Returns `true` if this string starts with the specified prefix.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return
nativeStartsWith(prefix, 0)\n    else\n        return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified prefix.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return nativeStartsWith(prefix, startIndex)\n    else\n        return regionMatches(startIndex, prefix, 0, prefix.length,
ignoreCase)\n}\n\n/**\n * Returns `true` if this string ends with the specified suffix.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.endsWith(suffix: String, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return
nativeEndsWith(suffix)\n    else\n        return regionMatches(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n@Deprecated("Use Regex.matches() instead",
ReplaceWith("regex.toRegex().matches(this)"))\n@DeprecatedSinceKotlin(warningSince = "1.6")\n\npublic fun
String.matches(regex: String): Boolean {\n    @Suppress("DEPRECATION")\n    val result = this.match(regex)\n    return result != null && result.size != 0\n}\n\n/**\n * Returns `true` if this string is empty or consists solely of
whitespace characters.\n */\n * @sample samples.text.Strings.stringIsBlank\n */\n\npublic actual fun
CharSequence.isBlank(): Boolean = length == 0 || indices.all { this[it].isWhitespace() }\n\n/**\n * Returns `true` if
this string is equal to [other], optionally ignoring character case.\n */\n * Two strings are considered to be equal if
they have the same length and the same character at the same index.\n * If [ignoreCase] is true, the result of
`Char.toUpperCaseChar().toLowerCaseChar()` on each character is compared.\n */\n * @param ignoreCase `true` to ignore
character case when comparing strings. By default `false`.\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String?.equals(other: String?, ignoreCase: Boolean = false): Boolean {\n    if (this == null) return other == null\n    if
(other == null) return false\n    if (!ignoreCase) return this == other\n    if (this.length != other.length) return
false\n    for (index in 0 until this.length) {\n        val thisChar = this[index]\n        val otherChar = other[index]\n        if (!thisChar.equals(otherChar, ignoreCase)) {\n            return false\n        }\n    }\n    return
true\n}

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true\n}\n\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
CharSequence.regionMatches(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase:
Boolean = false): Boolean =\n    regionMatchesImpl(thisOffset, other, otherOffset, length, ignoreCase)\n\n\n/**\n * Returns a copy of this string having its first letter titlecased using the rules of the default locale,\n * or the original string if it's empty or already starts with a title case letter.\n * The title case of a character is usually the same as
its upper case with several exceptions.\n * The particular list of characters with the special title case form depends
on the underlying platform.\n * @sample samples.text.Strings.capitalize\n */\n@Deprecated("Use
replaceFirstChar instead.", ReplaceWith("replaceFirstChar { if (it.isLowerCase()) it.titlecase() else it.toString()
}"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic actual fun String.capitalize(): String {\n    return if
(isNotEmpty()) substring(0, 1).uppercase() + substring(1) else this\n}\n\n\n/**\n * Returns a copy of this string having
its first letter lowercased using the rules of the default locale,\n * or the original string if it's empty or already starts
with a lower case letter.\n * @sample samples.text.Strings.decapitalize\n */\n@Deprecated("Use
replaceFirstChar instead.", ReplaceWith("replaceFirstChar { it.lowercase()
}"))\n@DeprecatedSinceKotlin(warningSince = "1.5")\npublic actual fun String.decapitalize(): String {\n    return
if (isNotEmpty()) substring(0, 1).lowercase() + substring(1) else this\n}\n\n\n/**\n * Returns a string containing this
char sequence repeated [n] times.\n * @throws [IllegalArgumentException] when n < 0.\n * @sample
samples.text.Strings.repeat\n */\npublic actual fun CharSequence.repeat(n: Int): String {\n    require(n >= 0) {\n
"Count 'n' must be non-negative, but was $n." }\n    return when (n) {\n        0 -> ""\n        1 -> this.toString()\n
else -> {\n        var result = ""\n        if (!isEmpty()) {\n            var s = this.toString()\n            var count =
n\n            while (true) {\n                if ((count and 1) == 1) {\n                    result += s\n                }\n
count = count ushr 1\n                if (count == 0) {\n                    break\n                }\n                s +=
s\n            }\n        }\n        return result\n    }\n}\n\n\n/**\n * Returns a new string obtained by
replacing all occurrences of the [oldValue] substring in this string\n * with the specified [newValue] string.\n * @sample
samples.text.Strings.replace\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.replace(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =\n    nativeReplace(RegExp(Regex.escape(oldValue), if (ignoreCase) "gui" else "gu"),
Regex.nativeEscapeReplacement(newValue))\n\n\n/**\n * Returns a new string with all occurrences of [oldChar]
replaced with [newChar].\n * @sample samples.text.Strings.replace\n */\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual fun
String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =\n    nativeReplace(RegExp(Regex.escape(oldChar.toString()), if (ignoreCase) "gui" else "gu"),
newChar.toString())\n\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual
fun String.replaceFirst(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =\n    nativeReplace(RegExp(Regex.escape(oldValue), if (ignoreCase) "ui" else "u"),
Regex.nativeEscapeReplacement(newValue))\n\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGU
MENTS")\npublic actual fun String.replaceFirst(oldChar: Char, newChar: Char, ignoreCase: Boolean = false):
String =\n    nativeReplace(RegExp(Regex.escape(oldChar.toString()), if (ignoreCase) "ui" else "u"),
newChar.toString())\n\n\n/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Returns the negative [size] if [throwOnMalformed] is
false, throws [CharacterCodingException] otherwise. */\nprivate fun malformed(size: Int, index: Int,
throwOnMalformed: Boolean): Int {\n    if (throwOnMalformed) throw CharacterCodingException("Malformed
sequence starting at ${index - 1}")\n    return -size\n}\n\n\n/**\n * Returns code point corresponding to UTF-16
surrogate pair,\n * where the first of the pair is the [high] and the second is in the [string] at the [index].\n * Returns
zero if the pair is malformed and [throwOnMalformed] is false.\n * @throws CharacterCodingException if the
pair is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFromSurrogate(string: String, high:
Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n    if (high !in 0xD800..0xDBFF || index >=

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endIndex) {\n    return malformed(0, index, throwOnMalformed)\n }\n val low = string[index].code\n if
(low !in 0xDC00..0xDFFF) {\n    return malformed(0, index, throwOnMalformed)\n }\n return 0x10000 +
((high and 0x3FF) shl 10) or (low and 0x3FF)\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of
two bytes,\n * where the first byte of the sequence is the [byte1] and the second byte is in the [bytes] array at the
[index].\n * Returns zero if the sequence is malformed and [throwOnMalformed] is false.\n * @throws
CharacterCodingException if the sequence of two bytes is malformed and [throwOnMalformed] is true.\n
*\nprivate fun codePointFrom2(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed:
Boolean): Int {\n    if (byte1 and 0x1E == 0 || index >= endIndex) {\n        return malformed(0, index,
throwOnMalformed)\n    }\n    val byte2 = bytes[index].toInt()\n    if (byte2 and 0xC0 != 0x80) {\n        return
malformed(0, index, throwOnMalformed)\n    }\n    return (byte1 shl 6) xor byte2 xor 0xF80\n}\n\n/**\n * Returns
code point corresponding to UTF-8 sequence of three bytes,\n * where the first byte of the sequence is the [byte1]
and the others are in the [bytes] array starting from the [index].\n * Returns a non-positive value indicating number
of bytes from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is
false.\n * @throws CharacterCodingException if the sequence of three bytes is malformed and
[throwOnMalformed] is true.\n *\nprivate fun codePointFrom3(bytes: ByteArray, byte1: Int, index: Int, endIndex:
Int, throwOnMalformed: Boolean): Int {\n    if (index >= endIndex) {\n        return malformed(0, index,
throwOnMalformed)\n    }\n    val byte2 = bytes[index].toInt()\n    if (byte1 and 0xF == 0) {\n        if (byte2 and
0xE0 != 0xA0) {\n            // Non-shortest form\n            return malformed(0, index, throwOnMalformed)\n        }\n    }
else if (byte1 and 0xF == 0xD) {\n        if (byte2 and 0xE0 != 0x80) {\n            // Surrogate code point\n
return malformed(0, index, throwOnMalformed)\n        }\n    } else if (byte2 and 0xC0 != 0x80) {\n        return
malformed(0, index, throwOnMalformed)\n    }\n    if (index + 1 == endIndex) {\n        return malformed(1, index,
throwOnMalformed)\n    }\n    val byte3 = bytes[index + 1].toInt()\n    if (byte3 and 0xC0 != 0x80) {\n        return
malformed(1, index, throwOnMalformed)\n    }\n    return (byte1 shl 12) xor (byte2 shl 6) xor byte3 xor -
0x1E080\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of four bytes,\n * where the first byte
of the sequence is the [byte1] and the others are in the [bytes] array starting from the [index].\n * Returns a non-
positive value indicating number of bytes from [bytes] included in malformed sequence\n * if the sequence is
malformed and [throwOnMalformed] is false.\n * @throws CharacterCodingException if the sequence of four
bytes is malformed and [throwOnMalformed] is true.\n *\nprivate fun codePointFrom4(bytes: ByteArray, byte1:
Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n    if (index >= endIndex) {\n        malformed(0,
index, throwOnMalformed)\n    }\n    val byte2 = bytes[index].toInt()\n    if (byte1 and 0xF == 0x0) {\n        if
(byte2 and 0xF0 <= 0x80) {\n            // Non-shortest form\n            return malformed(0, index,
throwOnMalformed)\n        }\n    } else if (byte1 and 0xF == 0x4) {\n        if (byte2 and 0xF0 != 0x80) {\n            //
Out of Unicode code points domain (larger than U+10FFFF)\n            return malformed(0, index,
throwOnMalformed)\n        }\n    } else if (byte1 and 0xF > 0x4) {\n        return malformed(0, index,
throwOnMalformed)\n    } else if (byte2 and 0xC0 != 0x80) {\n        return malformed(0, index,
throwOnMalformed)\n    }\n    if (index + 1 == endIndex) {\n        return malformed(1, index,
throwOnMalformed)\n    }\n    val byte3 = bytes[index + 1].toInt()\n    if (byte3 and 0xC0 != 0x80) {\n        return
malformed(1, index, throwOnMalformed)\n    }\n    if (index + 2 == endIndex) {\n        return malformed(2, index,
throwOnMalformed)\n    }\n    val byte4 = bytes[index + 2].toInt()\n    if (byte4 and 0xC0 != 0x80) {\n        return
malformed(2, index, throwOnMalformed)\n    }\n    return (byte1 shl 18) xor (byte2 shl 12) xor (byte3 shl 6) xor
byte4 xor 0x381F80\n}\n\n/**\n * Maximum number of bytes needed to encode a single char.\n * Code points in
`0..0x7F` are encoded in a single byte.\n * Code points in `0x80..0x7FF` are encoded in two bytes.\n * Code points
in `0x800..0xD7FF` or in `0xE000..0xFFFF` are encoded in three bytes.\n * Surrogate code points in
`0xD800..0xDFFF` are not Unicode scalar values, therefore aren't encoded.\n * Code points in
`0x10000..0x10FFFF` are represented by a pair of surrogate `Char`s and are encoded in four bytes.\n *\nprivate
const val MAX_BYTES_PER_CHAR = 3\n\n/**\n * The byte sequence a malformed UTF-16 char sequence is
replaced by.\n *\nprivate val REPLACEMENT_BYTE_SEQUENCE: ByteArray = byteArrayOf(0xEF.toByte(),
0xBF.toByte(), 0xBD.toByte())\n\n/**\n * Encodes the [string] using UTF-8 and returns the resulting [ByteArray].\n

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*\n * @param string the string to encode.\n * @param startIndex the start offset (inclusive) of the substring to
encode.\n * @param endIndex the end offset (exclusive) of the substring to encode.\n * @param
throwOnMalformed whether to throw on malformed char sequence or replace by the
[REPLACEMENT_BYTE_SEQUENCE].\n *\n * @throws CharacterCodingException if the char sequence is
malformed and [throwOnMalformed] is true.\n */\ninternal fun encodeUtf8(string: String, startIndex: Int, endIndex:
Int, throwOnMalformed: Boolean): ByteArray {\n    require(startIndex >= 0 && endIndex <= string.length &&
startIndex <= endIndex)\n    val bytes = ByteArray((endIndex - startIndex) * MAX_BYTES_PER_CHAR)\n    var
byteIndex = 0\n    var charIndex = startIndex\n    while (charIndex < endIndex) {\n        val code =
string[charIndex++].code\n        when {\n            code < 0x80 ->\n                bytes[byteIndex++] = code.toByte()\n            code < 0x800 -> {\n                bytes[byteIndex++] = ((code shr 6) or 0xC0).toByte()\n
bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n            }\n            code < 0xD800 || code >= 0xE000 ->
{\n                bytes[byteIndex++] = ((code shr 12) or 0xE0).toByte()\n                bytes[byteIndex++] = (((code shr 6)
and 0x3F) or 0x80).toByte()\n                bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n            }\n
else -> { // Surrogate char value\n                val codePoint = codePointFromSurrogate(string, code, charIndex,
endIndex, throwOnMalformed)\n                if (codePoint <= 0) {\n                    bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[0]\n                    bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[1]\n                    bytes[byteIndex++] =
REPLACEMENT_BYTE_SEQUENCE[2]\n                } else {\n                    bytes[byteIndex++] = ((codePoint shr
18) or 0xF0).toByte()\n                    bytes[byteIndex++] = (((codePoint shr 12) and 0x3F) or 0x80).toByte()\n
                    bytes[byteIndex++] = (((codePoint shr 6) and 0x3F) or 0x80).toByte()\n                    bytes[byteIndex++] =
((codePoint and 0x3F) or 0x80).toByte()\n                    charIndex++\n                }\n            }\n        }\n    }\n    return if (bytes.size == byteIndex) bytes else bytes.copyOf(byteIndex)\n}\n\n/**\n * The character a malformed
UTF-8 byte sequence is replaced by.\n */\nprivate const val REPLACEMENT_CHAR = "\uFFFF"\n\n/**\n *
Decodes the UTF-8 [bytes] array and returns the resulting [String].\n *\n * @param bytes the byte array to decode.\n
*\n * @param startIndex the start offset (inclusive) of the array to be decoded.\n *\n * @param endIndex the end offset
(exclusive) of the array to be encoded.\n *\n * @param throwOnMalformed whether to throw on malformed byte
sequence or replace by the [REPLACEMENT_CHAR].\n *\n * @throws CharacterCodingException if the array is
malformed UTF-8 byte sequence and [throwOnMalformed] is true.\n */\ninternal fun decodeUtf8(bytes: ByteArray,
startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): String {\n    require(startIndex >= 0 && endIndex <=
bytes.size && startIndex <= endIndex)\n    var byteIndex = startIndex\n    val stringBuilder = StringBuilder()\n
while (byteIndex < endIndex) {\n        val byte = bytes[byteIndex++].toInt()\n        when {\n            byte >= 0 ->\n                stringBuilder.append(byte.toChar())\n            byte shr 5 == -2 -> {\n                val code =
codePointFrom2(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n                if (code <= 0) {\n
stringBuilder.append(REPLACEMENT_CHAR)\n                    byteIndex += -code\n                } else {\n
stringBuilder.append(code.toChar())\n                    byteIndex += 1\n                }\n            }\n            byte shr 4 == -2 -
> {\n                val code = codePointFrom3(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n                if
(code <= 0) {\n                    stringBuilder.append(REPLACEMENT_CHAR)\n                    byteIndex += -code\n
                } else {\n                    stringBuilder.append(code.toChar())\n                    byteIndex += 2\n                }\n
            }\n            byte shr 3 == -2 -> {\n                val code = codePointFrom4(bytes, byte, byteIndex, endIndex,
throwOnMalformed)\n                if (code <= 0) {\n                    stringBuilder.append(REPLACEMENT_CHAR)\n
                    byteIndex += -code\n                } else {\n                    val high = (code - 0x10000) shr 10 or 0xD800\n
                    val low = (code and 0x3FFF) or 0xDC00\n                    stringBuilder.append(high.toChar())\n
stringBuilder.append(low.toChar())\n                    byteIndex += 3\n                }\n            }\n            else -> {\n
                malformed(0, byteIndex, throwOnMalformed)\n                stringBuilder.append(REPLACEMENT_CHAR)\n
            }\n        }\n    }\n    return stringBuilder.toString()\n}\n\n"/**\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Returns the detailed description of this
throwable with its stack trace.\n *\n * The detailed description includes:\n * - the short description (see

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[Throwable.toString] of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of the exceptions
that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed description of
each throwable in the [Throwable.cause] chain.\n *\n@SinceKotlin("1.4")\npublic actual fun
Throwable.stackTraceToString(): String = ExceptionTraceBuilder().buildFor(this)\n\n/**\n * Prints the [detailed
description][Throwable.stackTraceToString] of this throwable to console error output.\n
*\n@SinceKotlin("1.4")\npublic actual fun Throwable.printStackTrace() {\n
console.error(this.stackTraceToString())\n}\n\n/**\n * Adds the specified exception to the list of exceptions that
were\n * suppressed in order to deliver this exception.\n *\n@SinceKotlin("1.4")\npublic actual fun
Throwable.addSuppressed(exception: Throwable) {\n    if (this !== exception) {\n        val suppressed =
this.asDynamic()._suppressed.unsafeCast<MutableList<Throwable>>()\n        if (suppressed == null) {\n
this.asDynamic()._suppressed = mutableListOf(exception)\n        } else {\n            suppressed.add(exception)\n
}\n    }\n}\n\n/**\n * Returns a list of all exceptions that were suppressed in order to deliver this exception.\n
*\n@SinceKotlin("1.4")\npublic actual val Throwable.suppressedExceptions: List<Throwable>\n    get() {\nreturn
this.asDynamic()._suppressed?.unsafeCast<List<Throwable>>() ?: emptyList()\n    }\n\nprivate class
ExceptionTraceBuilder {\n    private val target = StringBuilder()\n    private val visited = arrayOf<Throwable>()\n
private var topStack: String = ""\n    private var topStackStart: Int = 0\n    fun buildFor(exception: Throwable):
String {\n        exception.dumpFullTrace("", "")\n        return target.toString()\n    }\n    private fun
hasSeen(exception: Throwable): Boolean = visited.any { it === exception }\n    private fun
Throwable.dumpFullTrace(indent: String, qualifier: String) {\n        this.dumpSelfTrace(indent, qualifier) ||
return\n        var cause = this.cause\n        while (cause != null) {\n            cause.dumpSelfTrace(indent,
"Caused
by: ") || return\n            cause = cause.cause\n        }\n    }\n    private fun Throwable.dumpSelfTrace(indent:
String, qualifier: String): Boolean {\n        target.append(indent).append(qualifier)\n        val shortInfo =
this.toString()\n        if (hasSeen(this)) {\n            target.append("[CIRCULAR REFERENCE, SEE ABOVE:
")\n            .append(shortInfo).append("\\n")\n            return false\n        }\n        visited.asDynamic().push(this)\n        var
stack = this.asDynamic().stack as String?\n        if (stack != null) {\n            val stackStart =
stack.indexOf(shortInfo).let { if (it < 0) 0 else it + shortInfo.length }\n            if (stackStart == 0)
target.append(shortInfo).append("\\n")\n            if (topStack.isEmpty()) {\n                topStack = stack\n
topStackStart = stackStart\n            } else {\n                stack = dropCommonFrames(stack, stackStart)\n
            }\n            if (indent.isNotEmpty()) {\n                // indent stack, but avoid indenting exception message lines\n
val
messageLines = if (stackStart == 0) 0 else 1 + shortInfo.count { c -> c == '\\n' }\n            stack.lineSequence().forEachIndexed { index: Int, line: String ->\n
if (index >= messageLines)\n                target.append(indent)\n                target.append(line).append("\\n")\n            } else {\n
target.append(stack).append("\\n")\n            }\n        } else {\n            target.append(shortInfo).append("\\n")\n
}\n        val suppressed = suppressedExceptions\n        if (suppressed.isNotEmpty()) {\n            val
suppressedIndent = indent + "  "\n            for (s in suppressed) {\n                s.dumpFullTrace(suppressedIndent,
"Suppressed: ")\n            }\n        }\n        return true\n    }\n    private fun dropCommonFrames(stack: String,
stackStart: Int): String {\n        var commonFrames: Int = 0\n        var lastBreak: Int = 0\n        var preLastBreak: Int
= 0\n        for (pos in 0 until minOf(topStack.length - topStackStart, stack.length - stackStart)) {\n            val c =
stack[stack.lastIndex - pos]\n            if (c != topStack[topStack.lastIndex - pos]) break\n            if (c == '\\n') {\n
commonFrames += 1\n                preLastBreak = lastBreak\n                lastBreak = pos\n            }\n        }\n
if (commonFrames <= 1) return stack\n        while (preLastBreak > 0 && stack[stack.lastIndex - (preLastBreak - 1)]
== '\\n')\n            preLastBreak -= 1\n        // leave 1 common frame to ease matching with the top exception stack\n
return stack.dropLast(preLastBreak) + "... and ${commonFrames - 1} more common stack frames skipped"\n
}\n}\n\n"/>\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@npackage kotlin.time\nimport kotlin.js.json\nimport kotlin.math.*\n\ninternal actual inline val
durationAssertionsEnabled: Boolean get() = true\n\ninternal actual fun formatToExactDecimals(value: Double,
decimals: Int): String {\n    val rounded = if (decimals == 0) {\n        value\n    } else {\n        val pow =

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10.0.pow(decimals)\n    JsMath.round(abs(value) * pow) / pow * sign(value)\n    }\n    return if (abs(rounded) <
1e21) {\n        // toFixed switches to scientific format after 1e21\n
rounded.asDynamic().toFixed(decimals).unsafeCast<String>()\n    } else {\n        // toPrecision outputs the specified
number of digits, but only for positive numbers\n        val positive = abs(rounded)\n        val positiveString =
positive.asDynamic().toPrecision(ceil(log10(positive)) + decimals).unsafeCast<String>()\n        if (rounded < 0) \"-
$positiveString\" else positiveString\n    }\n}\n\ninternal actual fun formatUpToDecimals(value: Double, decimals:
Int): String {\n    return value.asDynamic().toLocaleString(\"en-us\", json(\"maximumFractionDigits\" to
decimals)).unsafeCast<String>()\n}\n\n\"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\n@SinceKotlin(\"1.6\")\n@WasExperimental(ExperimentalTime::class)\n\npublic actual enum class
DurationUnit(internal val scale: Double) {\n    /**\n     * Time unit representing one nanosecond, which is 1/1000 of
a microsecond.\n     */\n    NANOSECONDS(1e0),\n    /**\n     * Time unit representing one microsecond, which is
1/1000 of a millisecond.\n     */\n    MICROSECONDS(1e3),\n    /**\n     * Time unit representing one millisecond,
which is 1/1000 of a second.\n     */\n    MILLISECONDS(1e6),\n    /**\n     * Time unit representing one second.\n     */\n    SECONDS(1e9),\n    /**\n     * Time unit representing one minute.\n     */\n    MINUTES(60e9),\n    /**\n     * Time unit representing one hour.\n     */\n    HOURS(3600e9),\n    /**\n     * Time unit representing one day,
which is always equal to 24 hours.\n     */\n    DAYS(86400e9);\n}\n\n\n@SinceKotlin(\"1.3\")\n\ninternal actual fun
convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double {\n    val
sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n    return when {\n
sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale)\n        sourceCompareTarget < 0 -> value /
(targetUnit.scale / sourceUnit.scale)\n        else -> value\n    }\n}\n\n\n@SinceKotlin(\"1.5\")\n\ninternal actual fun
convertDurationUnitOverflow(value: Long, sourceUnit: DurationUnit, targetUnit: DurationUnit): Long {\n    val
sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n    return when {\n
sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale).toLong()\n        sourceCompareTarget < 0
-> value / (targetUnit.scale / sourceUnit.scale).toLong()\n        else -> value\n    }\n}\n\n\n@SinceKotlin(\"1.5\")\n\ninternal actual fun convertDurationUnit(value: Long, sourceUnit: DurationUnit,
targetUnit: DurationUnit): Long {\n    val sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n
return when {\n        sourceCompareTarget > 0 -> {\n            val scale = (sourceUnit.scale /
targetUnit.scale).toLong()\n            val result = value * scale\n            when {\n                result / scale == value ->
result\n                value > 0 -> Long.MAX_VALUE\n                else -> Long.MIN_VALUE\n            }\n        }\n
sourceCompareTarget < 0 -> value / (targetUnit.scale / sourceUnit.scale).toLong()\n        else -> value\n    }\n}\n\n\n\"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\nimport org.w3c.performance.GlobalPerformance\nimport
org.w3c.performance.Performance\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n\ninternal actual object
MonotonicTimeSource : TimeSource {\n    private val actualSource: TimeSource = run {\n        val isNode:
Boolean = js(\"typeof process !== 'undefined' && process.versions && !process.versions.node\")\n        if
(isNode)\n            HrTimeSource(js(\"process\").unsafeCast<Process>())\n        else\n            js(\"self\").unsafeCast<GlobalPerformance?>()?.performance?.let(::PerformanceTimeSource)\n        ?:\n        DateNowTimeSource\n    }\n\n    override fun markNow(): TimeMark = actualSource.markNow()\n}\n\n\ninternal
external interface Process {\n    fun hrtime(time: Array<Double> = definedExternally):
Array<Double>}\n\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n\ninternal class HrTimeSource(val process:
Process) : TimeSource {\n    override fun markNow(): TimeMark = object : TimeMark() {\n        val startedAt =
process.hrtime()\n        override fun elapsedNow(): Duration =\n            process.hrtime(startedAt).let { (seconds,
nanos) -> seconds.toDuration(DurationUnit.SECONDS) + nanos.toDuration(DurationUnit.NANOSECONDS) }\n    }\n\n    override fun toString(): String =
\"TimeSource(process.hrtime())\"\n}\n\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n\ninternal class

```



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PerformanceTimeSource(val performance: Performance) : AbstractDoubleTimeSource(unit =
DurationUnit.MILLISECONDS) {\n  override fun read(): Double = performance.now()\n  override fun toString():
String = \"TimeSource(self.performance.now())\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal
object DateNowTimeSource : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {\n  override
fun read(): Double = kotlin.js.Date.now()\n  override fun toString(): String = \"TimeSource(Date.now())\n}\",\"/*\n
* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlinx.dom\n\nimport org.w3c.dom.*\nimport kotlin.contracts.*\n\n/**\n * Creates a new element with the
specified [name].\n */\n * The element is initialized with the specified [init] function.\n
*/\n\n@SinceKotlin(\"1.4\")\npublic fun Document.createElement(name: String, init: Element.() -> Unit): Element {\n
  contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }\n  return
  createElement(name).apply(init)\n}\n\n/**\n * Appends a newly created element with the specified [name] to this
element.\n */\n * The element is initialized with the specified [init] function.\n */\n\n@SinceKotlin(\"1.4\")\npublic fun
Element.appendChild(name: String, init: Element.() -> Unit): Element {\n  contract { callsInPlace(init,
InvocationKind.EXACTLY_ONCE) }\n  return ownerDocument!!.createElement(name, init).also {
  appendChild(it) }\n}\n\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/**\n * Returns true if the element
has the given CSS class style in its 'class' attribute\n */\n\n@SinceKotlin(\"1.4\")\nfun Element.hasClass(cssClass:
String): Boolean = className.matches(\"\\\"(\\\"|^.*\\|s+)$cssClass($\\|s+.*\\|\"\\\"\".toRegex())\n\n/**\n * Adds CSS class
to element. Has no effect if all specified classes are already in class attribute of the element\n */\n * @return true if at
least one class has been added\n */\n\n@SinceKotlin(\"1.4\")\nfun Element.addClass(vararg cssClasses: String):
Boolean {\n  val missingClasses = cssClasses.filterNot { hasClass(it) }\n  if (missingClasses.isNotEmpty()) {\n
  val presentClasses = className.trim()\n  className = buildString {\n    append(presentClasses)\n    if
(!presentClasses.isEmpty()) {\n      append(\" \")\n    }\n    missingClasses.joinTo(this, \" \")\n  }\n  return true\n }\n  return false\n}\n\n/**\n * Removes all [cssClasses] from element. Has no effect if all
specified classes are missing in class attribute of the element\n */\n * @return true if at least one class has been
removed\n */\n\n@SinceKotlin(\"1.4\")\nfun Element.removeClass(vararg cssClasses: String): Boolean {\n  if
(cssClasses.any { hasClass(it) }) {\n    val toBeRemoved = cssClasses.toSet()\n    className =
className.trim().split(\"\\\\\\\\s+\".toRegex()).filter { it !in toBeRemoved }.joinToString(\" \")\n    return true\n
}\n  return false\n}\n\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage
kotlin.text\n\n/**\n * Converts the string into a regular expression [Regex] with the default options.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(): Regex = Regex(this)\n\n/**\n * Converts the
string into a regular expression [Regex] with the specified single [option].\n */\n\n@kotlin.internal.InlineOnly\npublic
inline fun String.toRegex(option: RegexOption): Regex = Regex(this, option)\n\n/**\n * Converts the string into a
regular expression [Regex] with the specified set of [options].\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun
String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)\n\n\",\"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport
org.w3c.dom.*\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a
CDATA_SECTION_NODE.\n */\n\n@SinceKotlin(\"1.4\")\npublic val Node.isText: Boolean\n  get() = nodeType
== Node.TEXT_NODE || nodeType == Node.CDATA_SECTION_NODE\n\n/**\n * Gets a value indicating
whether this node is an [Element].\n */\n\n@SinceKotlin(\"1.4\")\npublic val Node.isElement: Boolean\n  get() =
nodeType == Node.ELEMENT_NODE\n\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

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license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.*\n\n/** Removes all the children
from this node. */\n\n@SinceKotlin("1.4")\npublic fun Node.clear() {\n    while (hasChildNodes()) {\n
removeChild(firstChild!!)\n    }\n}\n\n/**\n * Creates text node and append it to the element.\n */\n\n * @return this
element\n */\n\n@SinceKotlin("1.4")\nfun Element.appendText(text: String): Element {\n
appendChild(ownerDocument!!.createTextNode(text))\n    return this\n}\n\n"/*\n * Copyright 2010-2019 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\n@Deprecated("Use
UnionMessagePortOrWindowProxy instead.", ReplaceWith("UnionMessagePortOrWindowProxy"))\ntypealias
UnionMessagePortOrWindow = UnionMessagePortOrWindowProxy\n\n@Deprecated("Use `as` instead.",
ReplaceWith("`as`"))\nvar HTMLLinkElement.as_ get() = `as`\n    set(value) {\n        `as` = value\n
}\n\n@Deprecated("Use `is` instead.", ReplaceWith("`is`"))\nvar ElementCreationOptions.is_ get() = `is`\n
set(value) {\n        `is` = value\n    }"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
github.com/kotlin/dukat for details\n\npackage org.khronos.webgl\n\nimport kotlin.js.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface WebGLContextAttributes {\n    var
alpha: Boolean? /* = true */\n        get() = definedExternally\n        set(value) = definedExternally\n    var depth:
Boolean? /* = true */\n        get() = definedExternally\n        set(value) = definedExternally\n    var stencil: Boolean?
/* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var antialias: Boolean? /* =
true */\n        get() = definedExternally\n        set(value) = definedExternally\n    var premultipliedAlpha: Boolean?
/* = true */\n        get() = definedExternally\n        set(value) = definedExternally\n    var preserveDrawingBuffer:
Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var
preferLowPowerToHighPerformance: Boolean? /* = false */\n        get() = definedExternally\n        set(value) =
definedExternally\n    var failIfMajorPerformanceCaveat: Boolean? /* = false */\n        get() = definedExternally\n
        set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\npublic inline fun WebGLContextAttributes(alpha:
Boolean? = true, depth: Boolean? = true, stencil: Boolean? = false, antialias: Boolean? = true, premultipliedAlpha:
Boolean? = true, preserveDrawingBuffer: Boolean? = false, preferLowPowerToHighPerformance: Boolean? = false,
failIfMajorPerformanceCaveat: Boolean? = false): WebGLContextAttributes {\n    val o = js("{}")\n
o["alpha"] = alpha\n    o["depth"] = depth\n    o["stencil"] = stencil\n    o["antialias"] = antialias\n
o["premultipliedAlpha"] = premultipliedAlpha\n    o["preserveDrawingBuffer"] = preserveDrawingBuffer\n
o["preferLowPowerToHighPerformance"] = preferLowPowerToHighPerformance\n
o["failIfMajorPerformanceCaveat"] = failIfMajorPerformanceCaveat\n    return o\n}\n\npublic external abstract
class WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\n\npublic external
abstract class WebGLBuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\n\npublic
external abstract class WebGLFramebuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\n\npublic external
abstract class WebGLProgram : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\n\npublic
external abstract class WebGLRenderbuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\n\npublic external
abstract class WebGLShader : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\n\npublic external
abstract class WebGLTexture : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin\n */\n\n
public external abstract class WebGLUniformLocation\n\n/**\n * Exposes the JavaScript

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[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo) to Kotlin\n \* \npublic external abstract class WebGLActiveInfo {\n open val size: Int\n open val type: Int\n open val name: String\n}\n\n/\*\*\n \* Exposes the JavaScript

[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to Kotlin\n \* \npublic external abstract class WebGLShaderPrecisionFormat {\n open val rangeMin: Int\n open val rangeMax: Int\n open val precision: Int\n}\n\n@Suppress("NESTED\_CLASS\_IN\_EXTERNAL\_INTERFACE")\npublic external interface WebGLRenderingContextBase {\n val canvas: HTMLCanvasElement\n val drawingBufferWidth: Int\n val drawingBufferHeight: Int\n fun getContextAttributes(): WebGLContextAttributes?\n fun isContextLost(): Boolean\n fun getSupportedExtensions(): Array<String>?\n fun getExtension(name: String): dynamic\n fun activeTexture(texture: Int)\n fun attachShader(program: WebGLProgram?, shader: WebGLShader?)\n fun bindAttribLocation(program: WebGLProgram?, index: Int, name: String)\n fun bindBuffer(target: Int, buffer: WebGLBuffer?)\n fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?)\n fun bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?)\n fun bindTexture(target: Int, texture: WebGLTexture?)\n fun blendColor(red: Float, green: Float, blue: Float, alpha: Float)\n fun blendEquation(mode: Int)\n fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int)\n fun blendFunc(sfactor: Int, dfactor: Int)\n fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha: Int)\n fun bufferData(target: Int, size: Int, usage: Int)\n fun bufferData(target: Int, data: BufferDataSource?, usage: Int)\n fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?)\n fun checkFramebufferStatus(target: Int): Int\n fun clear(mask: Int)\n fun clearColor(red: Float, green: Float, blue: Float, alpha: Float)\n fun clearDepth(depth: Float)\n fun clearStencil(s: Int)\n fun colorMask(red: Boolean, green: Boolean, blue: Boolean, alpha: Boolean)\n fun compileShader(shader: WebGLShader?)\n fun compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data: ArrayBufferView)\n fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int, format: Int, data: ArrayBufferView)\n fun copyTexImage2D(target: Int, level: Int, internalformat: Int, x: Int, y: Int, width: Int, height: Int, border: Int)\n fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, x: Int, y: Int, width: Int, height: Int)\n fun createBuffer(): WebGLBuffer?\n fun createFramebuffer(): WebGLFramebuffer?\n fun createProgram(): WebGLProgram?\n fun createRenderbuffer(): WebGLRenderbuffer?\n fun createShader(type: Int): WebGLShader?\n fun createTexture(): WebGLTexture?\n fun cullFace(mode: Int)\n fun deleteBuffer(buffer: WebGLBuffer?)\n fun deleteFramebuffer(framebuffer: WebGLFramebuffer?)\n fun deleteProgram(program: WebGLProgram?)\n fun deleteRenderbuffer(renderbuffer: WebGLRenderbuffer?)\n fun deleteShader(shader: WebGLShader?)\n fun deleteTexture(texture: WebGLTexture?)\n fun depthFunc(func: Int)\n fun depthMask(flag: Boolean)\n fun depthRange(zNear: Float, zFar: Float)\n fun detachShader(program: WebGLProgram?, shader: WebGLShader?)\n fun disable(cap: Int)\n fun disableVertexAttribArray(index: Int)\n fun drawArrays(mode: Int, first: Int, count: Int)\n fun drawElements(mode: Int, count: Int, type: Int, offset: Int)\n fun enable(cap: Int)\n fun enableVertexAttribArray(index: Int)\n fun finish()\n fun flush()\n fun framebufferRenderbuffer(target: Int, attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?)\n fun framebufferTexture2D(target: Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int)\n fun frontFace(mode: Int)\n fun generateMipmap(target: Int)\n fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n fun getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>?\n fun getAttribLocation(program: WebGLProgram?, name: String): Int\n fun getBufferParameter(target: Int, pname: Int): Any?\n fun getParameter(pname: Int): Any?\n fun getError(): Int\n fun getFramebufferAttachmentParameter(target: Int, attachment: Int, pname: Int): Any?\n fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n fun getProgramInfoLog(program: WebGLProgram?): String?\n fun getRenderbufferParameter(target: Int, pname: Int): Any?\n fun getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n fun getShaderPrecisionFormat(shadertype: Int, precisiontype: Int): WebGLShaderPrecisionFormat?\n fun

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getShaderInfoLog(shader: WebGLShader?): String?\n fun getShaderSource(shader: WebGLShader?): String?\n
fun getTexParameter(target: Int, pname: Int): Any?\n fun getUniform(program: WebGLProgram?, location:
WebGLUniformLocation?): Any?\n fun getUniformLocation(program: WebGLProgram?, name: String):
WebGLUniformLocation?\n fun getVertexAttrib(index: Int, pname: Int): Any?\n fun
getVertexAttribOffset(index: Int, pname: Int): Int\n fun hint(target: Int, mode: Int)\n fun isBuffer(buffer:
WebGLBuffer?): Boolean\n fun isEnabled(cap: Int): Boolean\n fun isFramebuffer(framebuffer:
WebGLFramebuffer?): Boolean\n fun isProgram(program: WebGLProgram?): Boolean\n fun
isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n fun isShader(shader: WebGLShader?): Boolean\n
fun isTexture(texture: WebGLTexture?): Boolean\n fun lineWidth(width: Float)\n fun linkProgram(program:
WebGLProgram?)\n fun pixelStorei(pname: Int, param: Int)\n fun polygonOffset(factor: Float, units: Float)\n
fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun
renderbufferStorage(target: Int, internalformat: Int, width: Int, height: Int)\n fun sampleCoverage(value: Float,
invert: Boolean)\n fun scissor(x: Int, y: Int, width: Int, height: Int)\n fun shaderSource(shader: WebGLShader?,
source: String)\n fun stencilFunc(func: Int, ref: Int, mask: Int)\n fun stencilFuncSeparate(face: Int, func: Int, ref:
Int, mask: Int)\n fun stencilMask(mask: Int)\n fun stencilMaskSeparate(face: Int, mask: Int)\n fun
stencilOp(fail: Int, zfail: Int, zpass: Int)\n fun stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int)\n fun
texImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels:
ArrayBufferView?)\n fun texImage2D(target: Int, level: Int, internalformat: Int, format: Int, type: Int, source:
TexImageSource?)\n fun texParameterf(target: Int, pname: Int, param: Float)\n fun texParameteri(target: Int,
pname: Int, param: Int)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int,
format: Int, type: Int, pixels: ArrayBufferView?)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset:
Int, format: Int, type: Int, source: TexImageSource?)\n fun uniform1f(location: WebGLUniformLocation?, x:
Float)\n fun uniform1fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform1fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform1i(location: WebGLUniformLocation?, x: Int)\n fun
uniform1iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform1iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform2f(location: WebGLUniformLocation?, x: Float, y:
Float)\n fun uniform2fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform2fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform2i(location: WebGLUniformLocation?, x: Int, y: Int)\n
fun uniform2iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform2iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform3f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float)\n fun uniform3fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform3fv(location:
WebGLUniformLocation?, v: Array<Float>)\n fun uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z:
Int)\n fun uniform3iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform3iv(location:
WebGLUniformLocation?, v: Array<Int>)\n fun uniform4f(location: WebGLUniformLocation?, x: Float, y: Float,
z: Float, w: Float)\n fun uniform4fv(location: WebGLUniformLocation?, v: Float32Array)\n fun
uniform4fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform4i(location:
WebGLUniformLocation?, x: Int, y: Int, z: Int, w: Int)\n fun uniform4iv(location: WebGLUniformLocation?, v:
Int32Array)\n fun uniform4iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun
uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun
useProgram(program: WebGLProgram?)\n fun validateProgram(program: WebGLProgram?)\n fun
vertexAttrib1f(index: Int, x: Float)\n fun vertexAttrib1fv(index: Int, values: dynamic)\n fun
vertexAttrib2f(index: Int, x: Float, y: Float)\n fun vertexAttrib2fv(index: Int, values: dynamic)\n fun
vertexAttrib3f(index: Int, x: Float, y: Float, z: Float)\n fun vertexAttrib3fv(index: Int, values: dynamic)\n fun

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vertexAttrib4f(index: Int, x: Float, y: Float, z: Float, w: Float)\n  fun vertexAttrib4fv(index: Int, values: dynamic)\n  fun vertexAttribPointer(index: Int, size: Int, type: Int, normalized: Boolean, stride: Int, offset: Int)\n  viewport(x: Int, y: Int, width: Int, height: Int)\n\n  companion object {\n    val DEPTH_BUFFER_BIT: Int\n    val STENCIL_BUFFER_BIT: Int\n    val COLOR_BUFFER_BIT: Int\n    val POINTS: Int\n    val LINES: Int\n    val LINE_LOOP: Int\n    val LINE_STRIP: Int\n    val TRIANGLES: Int\n    val TRIANGLE_STRIP: Int\n    val TRIANGLE_FAN: Int\n    val ZERO: Int\n    val ONE: Int\n    val SRC_COLOR: Int\n    val ONE_MINUS_SRC_COLOR: Int\n    val SRC_ALPHA: Int\n    val ONE_MINUS_SRC_ALPHA: Int\n    val DST_ALPHA: Int\n    val ONE_MINUS_DST_ALPHA: Int\n    val DST_COLOR: Int\n    val ONE_MINUS_DST_COLOR: Int\n    val SRC_ALPHA_SATURATE: Int\n    val FUNC_ADD: Int\n    val BLEND_EQUATION: Int\n    val BLEND_EQUATION_RGB: Int\n    val BLEND_EQUATION_ALPHA: Int\n    val FUNC_SUBTRACT: Int\n    val FUNC_REVERSE_SUBTRACT: Int\n    val BLEND_DST_RGB: Int\n    val BLEND_SRC_RGB: Int\n    val BLEND_DST_ALPHA: Int\n    val BLEND_SRC_ALPHA: Int\n    val CONSTANT_COLOR: Int\n    val ONE_MINUS_CONSTANT_COLOR: Int\n    val CONSTANT_ALPHA: Int\n    val ONE_MINUS_CONSTANT_ALPHA: Int\n    val BLEND_COLOR: Int\n    val ARRAY_BUFFER: Int\n    val ELEMENT_ARRAY_BUFFER: Int\n    val ARRAY_BUFFER_BINDING: Int\n    val ELEMENT_ARRAY_BUFFER_BINDING: Int\n    val STREAM_DRAW: Int\n    val STATIC_DRAW: Int\n    val DYNAMIC_DRAW: Int\n    val BUFFER_SIZE: Int\n    val BUFFER_USAGE: Int\n    val CURRENT_VERTEX_ATTRIB: Int\n    val FRONT: Int\n    val BACK: Int\n    val FRONT_AND_BACK: Int\n    val CULL_FACE: Int\n    val BLEND: Int\n    val DITHER: Int\n    val STENCIL_TEST: Int\n    val DEPTH_TEST: Int\n    val SCISSOR_TEST: Int\n    val POLYGON_OFFSET_FILL: Int\n    val SAMPLE_ALPHA_TO_COVERAGE: Int\n    val SAMPLE_COVERAGE: Int\n    val NO_ERROR: Int\n    val INVALID_ENUM: Int\n    val INVALID_VALUE: Int\n    val INVALID_OPERATION: Int\n    val OUT_OF_MEMORY: Int\n    val CW: Int\n    val CCW: Int\n    val LINE_WIDTH: Int\n    val ALIASED_POINT_SIZE_RANGE: Int\n    val ALIASED_LINE_WIDTH_RANGE: Int\n    val CULL_FACE_MODE: Int\n    val FRONT_FACE: Int\n    val DEPTH_RANGE: Int\n    val DEPTH_WRITEMASK: Int\n    val DEPTH_CLEAR_VALUE: Int\n    val DEPTH_FUNC: Int\n    val STENCIL_CLEAR_VALUE: Int\n    val STENCIL_FUNC: Int\n    val STENCIL_FAIL: Int\n    val STENCIL_PASS_DEPTH_FAIL: Int\n    val STENCIL_PASS_DEPTH_PASS: Int\n    val STENCIL_REF: Int\n    val STENCIL_VALUE_MASK: Int\n    val STENCIL_WRITEMASK: Int\n    val STENCIL_BACK_FUNC: Int\n    val STENCIL_BACK_FAIL: Int\n    val STENCIL_BACK_PASS_DEPTH_FAIL: Int\n    val STENCIL_BACK_PASS_DEPTH_PASS: Int\n    val STENCIL_BACK_REF: Int\n    val STENCIL_BACK_VALUE_MASK: Int\n    val STENCIL_BACK_WRITEMASK: Int\n    val VIEWPORT: Int\n    val SCISSOR_BOX: Int\n    val COLOR_CLEAR_VALUE: Int\n    val COLOR_WRITEMASK: Int\n    val UNPACK_ALIGNMENT: Int\n    val PACK_ALIGNMENT: Int\n    val MAX_TEXTURE_SIZE: Int\n    val MAX_VIEWPORT_DIMS: Int\n    val SUBPIXEL_BITS: Int\n    val RED_BITS: Int\n    val GREEN_BITS: Int\n    val BLUE_BITS: Int\n    val ALPHA_BITS: Int\n    val DEPTH_BITS: Int\n    val STENCIL_BITS: Int\n    val POLYGON_OFFSET_UNITS: Int\n    val POLYGON_OFFSET_FACTOR: Int\n    val TEXTURE_BINDING_2D: Int\n    val SAMPLE_BUFFERS: Int\n    val SAMPLES: Int\n    val SAMPLE_COVERAGE_VALUE: Int\n    val SAMPLE_COVERAGE_INVERT: Int\n    val COMPRESSED_TEXTURE_FORMATS: Int\n    val DONT_CARE: Int\n    val FASTEST: Int\n    val NICEST: Int\n    val GENERATE_MIPMAP_HINT: Int\n    val BYTE: Int\n    val UNSIGNED_BYTE: Int\n    val SHORT: Int\n    val UNSIGNED_SHORT: Int\n    val INT: Int\n    val UNSIGNED_INT: Int\n    val FLOAT: Int\n    val DEPTH_COMPONENT: Int\n    val ALPHA: Int\n    val RGB: Int\n    val RGBA: Int\n    val LUMINANCE: Int\n    val LUMINANCE_ALPHA: Int\n    val UNSIGNED_SHORT_4_4_4_4: Int\n    val UNSIGNED_SHORT_5_5_5_1: Int\n    val UNSIGNED_SHORT_5_6_5: Int\n    val FRAGMENT_SHADER: Int\n    val VERTEX_SHADER: Int

```

val MAX\_VERTEX\_ATTRIBS: Int\n      val MAX\_VERTEX\_UNIFORM\_VECTORS: Int\n      val  
 MAX\_VARYING\_VECTORS: Int\n      val MAX\_COMBINED\_TEXTURE\_IMAGE\_UNITS: Int\n      val  
 MAX\_VERTEX\_TEXTURE\_IMAGE\_UNITS: Int\n      val MAX\_TEXTURE\_IMAGE\_UNITS: Int\n      val  
 MAX\_FRAGMENT\_UNIFORM\_VECTORS: Int\n      val SHADER\_TYPE: Int\n      val DELETE\_STATUS:  
 Int\n      val LINK\_STATUS: Int\n      val VALIDATE\_STATUS: Int\n      val ATTACHED\_SHADERS: Int\n  
 val ACTIVE\_UNIFORMS: Int\n      val ACTIVE\_ATTRIBUTES: Int\n      val  
 SHADING\_LANGUAGE\_VERSION: Int\n      val CURRENT\_PROGRAM: Int\n      val NEVER: Int\n      val  
 LESS: Int\n      val EQUAL: Int\n      val LEQUAL: Int\n      val GREATER: Int\n      val NOTEQUAL: Int\n  
 val GEQUAL: Int\n      val ALWAYS: Int\n      val KEEP: Int\n      val REPLACE: Int\n      val INCR: Int\n  
 val DECR: Int\n      val INVERT: Int\n      val INCR\_WRAP: Int\n      val DECR\_WRAP: Int\n      val  
 VENDOR: Int\n      val RENDERER: Int\n      val VERSION: Int\n      val NEAREST: Int\n      val LINEAR:  
 Int\n      val NEAREST\_MIPMAP\_NEAREST: Int\n      val LINEAR\_MIPMAP\_NEAREST: Int\n      val  
 NEAREST\_MIPMAP\_LINEAR: Int\n      val LINEAR\_MIPMAP\_LINEAR: Int\n      val  
 TEXTURE\_MAG\_FILTER: Int\n      val TEXTURE\_MIN\_FILTER: Int\n      val TEXTURE\_WRAP\_S: Int\n  
 val TEXTURE\_WRAP\_T: Int\n      val TEXTURE\_2D: Int\n      val TEXTURE: Int\n      val  
 TEXTURE\_CUBE\_MAP: Int\n      val TEXTURE\_BINDING\_CUBE\_MAP: Int\n      val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_X: Int\n      val TEXTURE\_CUBE\_MAP\_NEGATIVE\_X: Int\n      val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Y: Int\n      val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Y: Int\n      val  
 TEXTURE\_CUBE\_MAP\_POSITIVE\_Z: Int\n      val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Z: Int\n      val  
 MAX\_CUBE\_MAP\_TEXTURE\_SIZE: Int\n      val TEXTURE0: Int\n      val TEXTURE1: Int\n      val  
 TEXTURE2: Int\n      val TEXTURE3: Int\n      val TEXTURE4: Int\n      val TEXTURE5: Int\n      val  
 TEXTURE6: Int\n      val TEXTURE7: Int\n      val TEXTURE8: Int\n      val TEXTURE9: Int\n      val  
 TEXTURE10: Int\n      val TEXTURE11: Int\n      val TEXTURE12: Int\n      val TEXTURE13: Int\n      val  
 TEXTURE14: Int\n      val TEXTURE15: Int\n      val TEXTURE16: Int\n      val TEXTURE17: Int\n      val  
 TEXTURE18: Int\n      val TEXTURE19: Int\n      val TEXTURE20: Int\n      val TEXTURE21: Int\n      val  
 TEXTURE22: Int\n      val TEXTURE23: Int\n      val TEXTURE24: Int\n      val TEXTURE25: Int\n      val  
 TEXTURE26: Int\n      val TEXTURE27: Int\n      val TEXTURE28: Int\n      val TEXTURE29: Int\n      val  
 TEXTURE30: Int\n      val TEXTURE31: Int\n      val ACTIVE\_TEXTURE: Int\n      val REPEAT: Int\n  
 val CLAMP\_TO\_EDGE: Int\n      val MIRRORED\_REPEAT: Int\n      val FLOAT\_VEC2: Int\n      val  
 FLOAT\_VEC3: Int\n      val FLOAT\_VEC4: Int\n      val INT\_VEC2: Int\n      val INT\_VEC3: Int\n      val  
 INT\_VEC4: Int\n      val BOOL: Int\n      val BOOL\_VEC2: Int\n      val BOOL\_VEC3: Int\n      val  
 BOOL\_VEC4: Int\n      val FLOAT\_MAT2: Int\n      val FLOAT\_MAT3: Int\n      val FLOAT\_MAT4: Int\n  
 val SAMPLER\_2D: Int\n      val SAMPLER\_CUBE: Int\n      val VERTEX\_ATTRIB\_ARRAY\_ENABLED:  
 Int\n      val VERTEX\_ATTRIB\_ARRAY\_SIZE: Int\n      val VERTEX\_ATTRIB\_ARRAY\_STRIDE: Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_TYPE: Int\n      val VERTEX\_ATTRIB\_ARRAY\_NORMALIZED: Int\n  
 val VERTEX\_ATTRIB\_ARRAY\_POINTER: Int\n      val VERTEX\_ATTRIB\_ARRAY\_BUFFER\_BINDING:  
 Int\n      val IMPLEMENTATION\_COLOR\_READ\_TYPE: Int\n      val  
 IMPLEMENTATION\_COLOR\_READ\_FORMAT: Int\n      val COMPILE\_STATUS: Int\n      val  
 LOW\_FLOAT: Int\n      val MEDIUM\_FLOAT: Int\n      val HIGH\_FLOAT: Int\n      val LOW\_INT: Int\n  
 val MEDIUM\_INT: Int\n      val HIGH\_INT: Int\n      val FRAMEBUFFER: Int\n      val RENDERBUFFER:  
 Int\n      val RGBA4: Int\n      val RGB5\_A1: Int\n      val RGB565: Int\n      val DEPTH\_COMPONENT16:  
 Int\n      val STENCIL\_INDEX: Int\n      val STENCIL\_INDEX8: Int\n      val DEPTH\_STENCIL: Int\n      val  
 RENDERBUFFER\_WIDTH: Int\n      val RENDERBUFFER\_HEIGHT: Int\n      val  
 RENDERBUFFER\_INTERNAL\_FORMAT: Int\n      val RENDERBUFFER\_RED\_SIZE: Int\n      val  
 RENDERBUFFER\_GREEN\_SIZE: Int\n      val RENDERBUFFER\_BLUE\_SIZE: Int\n      val  
 RENDERBUFFER\_ALPHA\_SIZE: Int\n      val RENDERBUFFER\_DEPTH\_SIZE: Int\n      val  
 RENDERBUFFER\_STENCIL\_SIZE: Int\n      val FRAMEBUFFER\_ATTACHMENT\_OBJECT\_TYPE: Int\n  
 val FRAMEBUFFER\_ATTACHMENT\_OBJECT\_NAME: Int\n      val

```

FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n    val COLOR_ATTACHMENT0:
Int\n    val DEPTH_ATTACHMENT: Int\n    val STENCIL_ATTACHMENT: Int\n    val
DEPTH_STENCIL_ATTACHMENT: Int\n    val NONE: Int\n    val FRAMEBUFFER_COMPLETE: Int\n
val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n    val FRAMEBUFFER_UNSUPPORTED: Int\n
val FRAMEBUFFER_BINDING: Int\n    val RENDERBUFFER_BINDING: Int\n    val
MAX_RENDERBUFFER_SIZE: Int\n    val INVALID_FRAMEBUFFER_OPERATION: Int\n    val
UNPACK_FLIP_Y_WEBGL: Int\n    val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n    val
CONTEXT_LOST_WEBGL: Int\n    val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n    val
BROWSER_DEFAULT_WEBGL: Int\n    }
}
\n\n/**
 * Exposes the JavaScript
 [WebGLRenderingContext](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderingContext) to Kotlin
 */
\npublic external abstract class WebGLRenderingContext : WebGLRenderingContextBase, RenderingContext {
\n    companion object {
\n        val DEPTH_BUFFER_BIT: Int\n        val STENCIL_BUFFER_BIT: Int\n        val
COLOR_BUFFER_BIT: Int\n        val POINTS: Int\n        val LINES: Int\n        val LINE_LOOP: Int\n        val
LINE_STRIP: Int\n        val TRIANGLES: Int\n        val TRIANGLE_STRIP: Int\n        val TRIANGLE_FAN:
Int\n        val ZERO: Int\n        val ONE: Int\n        val SRC_COLOR: Int\n        val ONE_MINUS_SRC_COLOR:
Int\n        val SRC_ALPHA: Int\n        val ONE_MINUS_SRC_ALPHA: Int\n        val DST_ALPHA: Int\n        val
ONE_MINUS_DST_ALPHA: Int\n        val DST_COLOR: Int\n        val ONE_MINUS_DST_COLOR: Int\n
val SRC_ALPHA_SATURATE: Int\n        val FUNC_ADD: Int\n        val BLEND_EQUATION: Int\n        val
BLEND_EQUATION_RGB: Int\n        val BLEND_EQUATION_ALPHA: Int\n        val FUNC_SUBTRACT:
Int\n        val FUNC_REVERSE_SUBTRACT: Int\n        val BLEND_DST_RGB: Int\n        val
BLEND_SRC_RGB: Int\n        val BLEND_DST_ALPHA: Int\n        val BLEND_SRC_ALPHA: Int\n        val
CONSTANT_COLOR: Int\n        val ONE_MINUS_CONSTANT_COLOR: Int\n        val CONSTANT_ALPHA:
Int\n        val ONE_MINUS_CONSTANT_ALPHA: Int\n        val BLEND_COLOR: Int\n        val
ARRAY_BUFFER: Int\n        val ELEMENT_ARRAY_BUFFER: Int\n        val ARRAY_BUFFER_BINDING:
Int\n        val ELEMENT_ARRAY_BUFFER_BINDING: Int\n        val STREAM_DRAW: Int\n        val
STATIC_DRAW: Int\n        val DYNAMIC_DRAW: Int\n        val BUFFER_SIZE: Int\n        val
BUFFER_USAGE: Int\n        val CURRENT_VERTEX_ATTRIB: Int\n        val FRONT: Int\n        val BACK:
Int\n        val FRONT_AND_BACK: Int\n        val CULL_FACE: Int\n        val BLEND: Int\n        val DITHER:
Int\n        val STENCIL_TEST: Int\n        val DEPTH_TEST: Int\n        val SCISSOR_TEST: Int\n        val
POLYGON_OFFSET_FILL: Int\n        val SAMPLE_ALPHA_TO_COVERAGE: Int\n        val
SAMPLE_COVERAGE: Int\n        val NO_ERROR: Int\n        val INVALID_ENUM: Int\n        val
INVALID_VALUE: Int\n        val INVALID_OPERATION: Int\n        val OUT_OF_MEMORY: Int\n        val CW:
Int\n        val CCW: Int\n        val LINE_WIDTH: Int\n        val ALIASED_POINT_SIZE_RANGE: Int\n        val
ALIASED_LINE_WIDTH_RANGE: Int\n        val CULL_FACE_MODE: Int\n        val FRONT_FACE: Int\n
val DEPTH_RANGE: Int\n        val DEPTH_WRITEMASK: Int\n        val DEPTH_CLEAR_VALUE: Int\n        val
DEPTH_FUNC: Int\n        val STENCIL_CLEAR_VALUE: Int\n        val STENCIL_FUNC: Int\n        val
STENCIL_FAIL: Int\n        val STENCIL_PASS_DEPTH_FAIL: Int\n        val STENCIL_PASS_DEPTH_PASS:
Int\n        val STENCIL_REF: Int\n        val STENCIL_VALUE_MASK: Int\n        val STENCIL_WRITEMASK:
Int\n        val STENCIL_BACK_FUNC: Int\n        val STENCIL_BACK_FAIL: Int\n        val
STENCIL_BACK_PASS_DEPTH_FAIL: Int\n        val STENCIL_BACK_PASS_DEPTH_PASS: Int\n        val
STENCIL_BACK_REF: Int\n        val STENCIL_BACK_VALUE_MASK: Int\n        val
STENCIL_BACK_WRITEMASK: Int\n        val VIEWPORT: Int\n        val SCISSOR_BOX: Int\n        val
COLOR_CLEAR_VALUE: Int\n        val COLOR_WRITEMASK: Int\n        val UNPACK_ALIGNMENT: Int\n
val PACK_ALIGNMENT: Int\n        val MAX_TEXTURE_SIZE: Int\n        val MAX_VIEWPORT_DIMS: Int\n
val SUBPIXEL_BITS: Int\n        val RED_BITS: Int\n        val GREEN_BITS: Int\n        val BLUE_BITS: Int

```

val ALPHA\_BITS: Int\n
 val DEPTH\_BITS: Int\n
 val STENCIL\_BITS: Int\n
 val POLYGON\_OFFSET\_UNITS: Int\n
 val POLYGON\_OFFSET\_FACTOR: Int\n
 val TEXTURE\_BINDING\_2D: Int\n
 val SAMPLE\_BUFFERS: Int\n
 val SAMPLES: Int\n
 val SAMPLE\_COVERAGE\_VALUE: Int\n
 val SAMPLE\_COVERAGE\_INVERT: Int\n
 val COMPRESSED\_TEXTURE\_FORMATS: Int\n
 val DONT\_CARE: Int\n
 val FASTEST: Int\n
 val NICEST: Int\n
 val GENERATE\_MIPMAP\_HINT: Int\n
 val BYTE: Int\n
 val UNSIGNED\_BYTE: Int\n
 val SHORT: Int\n
 val UNSIGNED\_SHORT: Int\n
 val INT: Int\n
 val UNSIGNED\_INT: Int\n
 val FLOAT: Int\n
 val DEPTH\_COMPONENT: Int\n
 val ALPHA: Int\n
 val RGB: Int\n
 val RGBA: Int\n
 val LUMINANCE: Int\n
 val LUMINANCE\_ALPHA: Int\n
 val UNSIGNED\_SHORT\_4\_4\_4\_4: Int\n
 val UNSIGNED\_SHORT\_5\_5\_5\_1: Int\n
 val UNSIGNED\_SHORT\_5\_6\_5: Int\n
 val FRAGMENT\_SHADER: Int\n
 val VERTEX\_SHADER: Int\n
 val MAX\_VERTEX\_ATTRIBS: Int\n
 val MAX\_VERTEX\_UNIFORM\_VECTORS: Int\n
 val MAX\_VARYING\_VECTORS: Int\n
 val MAX\_COMBINED\_TEXTURE\_IMAGE\_UNITS: Int\n
 val MAX\_VERTEX\_TEXTURE\_IMAGE\_UNITS: Int\n
 val MAX\_TEXTURE\_IMAGE\_UNITS: Int\n
 val MAX\_FRAGMENT\_UNIFORM\_VECTORS: Int\n
 val SHADER\_TYPE: Int\n
 val DELETE\_STATUS: Int\n
 val LINK\_STATUS: Int\n
 val VALIDATE\_STATUS: Int\n
 val ATTACHED\_SHADERS: Int\n
 val ACTIVE\_UNIFORMS: Int\n
 val ACTIVE\_ATTRIBUTES: Int\n
 val SHADING\_LANGUAGE\_VERSION: Int\n
 val CURRENT\_PROGRAM: Int\n
 val NEVER: Int\n
 val LESS: Int\n
 val EQUAL: Int\n
 val LEQUAL: Int\n
 val GREATER: Int\n
 val NOTEQUAL: Int\n
 val GEQUAL: Int\n
 val ALWAYS: Int\n
 val KEEP: Int\n
 val REPLACE: Int\n
 val INCR: Int\n
 val DECR: Int\n
 val INVERT: Int\n
 val INCR\_WRAP: Int\n
 val DECR\_WRAP: Int\n
 val VENDOR: Int\n
 val RENDERER: Int\n
 val VERSION: Int\n
 val NEAREST: Int\n
 val LINEAR: Int\n
 val NEAREST\_MIPMAP\_NEAREST: Int\n
 val LINEAR\_MIPMAP\_NEAREST: Int\n
 val NEAREST\_MIPMAP\_LINEAR: Int\n
 val LINEAR\_MIPMAP\_LINEAR: Int\n
 val TEXTURE\_MAG\_FILTER: Int\n
 val TEXTURE\_MIN\_FILTER: Int\n
 val TEXTURE\_WRAP\_S: Int\n
 val TEXTURE\_WRAP\_T: Int\n
 val TEXTURE\_2D: Int\n
 val TEXTURE: Int\n
 val TEXTURE\_CUBE\_MAP: Int\n
 val TEXTURE\_BINDING\_CUBE\_MAP: Int\n
 val TEXTURE\_CUBE\_MAP\_POSITIVE\_X: Int\n
 val TEXTURE\_CUBE\_MAP\_NEGATIVE\_X: Int\n
 val TEXTURE\_CUBE\_MAP\_POSITIVE\_Y: Int\n
 val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Y: Int\n
 val TEXTURE\_CUBE\_MAP\_POSITIVE\_Z: Int\n
 val TEXTURE\_CUBE\_MAP\_NEGATIVE\_Z: Int\n
 val MAX\_CUBE\_MAP\_TEXTURE\_SIZE: Int\n
 val TEXTURE0: Int\n
 val TEXTURE1: Int\n
 val TEXTURE2: Int\n
 val TEXTURE3: Int\n
 val TEXTURE4: Int\n
 val TEXTURE5: Int\n
 val TEXTURE6: Int\n
 val TEXTURE7: Int\n
 val TEXTURE8: Int\n
 val TEXTURE9: Int\n
 val TEXTURE10: Int\n
 val TEXTURE11: Int\n
 val TEXTURE12: Int\n
 val TEXTURE13: Int\n
 val TEXTURE14: Int\n
 val TEXTURE15: Int\n
 val TEXTURE16: Int\n
 val TEXTURE17: Int\n
 val TEXTURE18: Int\n
 val TEXTURE19: Int\n
 val TEXTURE20: Int\n
 val TEXTURE21: Int\n
 val TEXTURE22: Int\n
 val TEXTURE23: Int\n
 val TEXTURE24: Int\n
 val TEXTURE25: Int\n
 val TEXTURE26: Int\n
 val TEXTURE27: Int\n
 val TEXTURE28: Int\n
 val TEXTURE29: Int\n
 val TEXTURE30: Int\n
 val TEXTURE31: Int\n
 val ACTIVE\_TEXTURE: Int\n
 val REPEAT: Int\n
 val CLAMP\_TO\_EDGE: Int\n
 val MIRRORED\_REPEAT: Int\n
 val FLOAT\_VEC2: Int\n
 val FLOAT\_VEC3: Int\n
 val FLOAT\_VEC4: Int\n
 val INT\_VEC2: Int\n
 val INT\_VEC3: Int\n
 val INT\_VEC4: Int\n
 val BOOL: Int\n
 val BOOL\_VEC2: Int\n
 val BOOL\_VEC3: Int\n
 val BOOL\_VEC4: Int\n
 val FLOAT\_MAT2: Int\n
 val FLOAT\_MAT3: Int\n
 val FLOAT\_MAT4: Int\n
 val SAMPLER\_2D: Int\n
 val SAMPLER\_CUBE: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_ENABLED: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_SIZE: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_STRIDE: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_TYPE: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_NORMALIZED: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_POINTER: Int\n
 val VERTEX\_ATTRIB\_ARRAY\_BUFFER\_BINDING: Int\n
 val IMPLEMENTATION\_COLOR\_READ\_TYPE: Int



```

IMPLEMENTATION_COLOR_READ_FORMAT: Int\n    val COMPILE_STATUS: Int\n    val
LOW_FLOAT: Int\n    val MEDIUM_FLOAT: Int\n    val HIGH_FLOAT: Int\n    val LOW_INT: Int\n
val MEDIUM_INT: Int\n    val HIGH_INT: Int\n    val FRAMEBUFFER: Int\n    val RENDERBUFFER:
Int\n    val RGBA4: Int\n    val RGB5_A1: Int\n    val RGB565: Int\n    val DEPTH_COMPONENT16:
Int\n    val STENCIL_INDEX: Int\n    val STENCIL_INDEX8: Int\n    val DEPTH_STENCIL: Int\n    val
RENDERBUFFER_WIDTH: Int\n    val RENDERBUFFER_HEIGHT: Int\n    val
RENDERBUFFER_INTERNAL_FORMAT: Int\n    val RENDERBUFFER_RED_SIZE: Int\n    val
RENDERBUFFER_GREEN_SIZE: Int\n    val RENDERBUFFER_BLUE_SIZE: Int\n    val
RENDERBUFFER_ALPHA_SIZE: Int\n    val RENDERBUFFER_DEPTH_SIZE: Int\n    val
RENDERBUFFER_STENCIL_SIZE: Int\n    val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n    val COLOR_ATTACHMENT0:
Int\n    val DEPTH_ATTACHMENT: Int\n    val STENCIL_ATTACHMENT: Int\n    val
DEPTH_STENCIL_ATTACHMENT: Int\n    val NONE: Int\n    val FRAMEBUFFER_COMPLETE: Int\n
val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n    val FRAMEBUFFER_UNSUPPORTED: Int\n
val FRAMEBUFFER_BINDING: Int\n    val RENDERBUFFER_BINDING: Int\n    val
MAX_RENDERBUFFER_SIZE: Int\n    val INVALID_FRAMEBUFFER_OPERATION: Int\n    val
UNPACK_FLIP_Y_WEBGL: Int\n    val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n    val
CONTEXT_LOST_WEBGL: Int\n    val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n    val
BROWSER_DEFAULT_WEBGL: Int\n    }\n}\n\n/**\n * Exposes the JavaScript
[WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n
*\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =
definedExternally) : Event {\n    open val statusMessage: String\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface WebGLContextEventInit : EventInit {\n    var statusMessage: String? /* = \"\" */\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun
WebGLContextEventInit(statusMessage: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): WebGLContextEventInit {\n    val o = js(\"({})\")\n    o[\"statusMessage\"] =
statusMessage\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n
*\npublic external open
class ArrayBuffer(length: Int) : BufferDataSource {\n    open val byteLength: Int\n    fun slice(begin: Int, end: Int =
definedExternally): ArrayBuffer\n\n    companion object {\n        fun isView(value: Any?): Boolean\n    }\n}\n\n/**\n * Exposes the JavaScript
[ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to Kotlin\n
*\npublic
external interface ArrayBufferView : BufferDataSource {\n    val buffer: ArrayBuffer\n    val byteOffset: Int\n    val
byteLength: Int\n}\n\n/**\n * Exposes the JavaScript
[Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n
*\npublic external open class
Int8Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Int8Array)\n    constructor(array:
Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n
override val byteLength: Int\n    fun set(array: Int8Array, offset: Int = definedExternally)\n    fun set(array:
Array<Byte>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Int8Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

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\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n *\npublic external open class
Uint8Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Uint8Array)\n
constructor(array: Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset:
Int\n    override val byteLength: Int\n    fun set(array: Uint8Array, offset: Int = definedExternally)\n    fun set(array:
Array<Byte>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Uint8Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.get(index: Int):
Byte = asDynamic()[index]\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.set(index: Int,
value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin\n *\npublic
external open class Uint8ClampedArray : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array:
Uint8ClampedArray)\n    constructor(array: Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int =
definedExternally, length: Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n
override val byteOffset: Int\n    override val byteLength: Int\n    fun set(array: Uint8ClampedArray, offset: Int =
definedExternally)\n    fun set(array: Array<Byte>, offset: Int = definedExternally)\n    fun subarray(start: Int, end:
Int): Uint8ClampedArray\n\n    companion object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun
Uint8ClampedArray.get(index: Int): Byte = asDynamic()[index]\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun
Uint8ClampedArray.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array) to Kotlin\n *\npublic external open class
Int16Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Int16Array)\n
constructor(array: Array<Short>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset:
Int\n    override val byteLength: Int\n    fun set(array: Int16Array, offset: Int = definedExternally)\n    fun set(array:
Array<Short>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Int16Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.get(index: Int):
Short = asDynamic()[index]\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.set(index: Int,
value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript
[Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin\n *\npublic external open
class Uint16Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Uint16Array)\n
constructor(array: Array<Short>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset:
Int\n    override val byteLength: Int\n    fun set(array: Uint16Array, offset: Int = definedExternally)\n    fun set(array:
Array<Short>, offset: Int = definedExternally)\n    fun subarray(start: Int, end: Int): Uint16Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.get(index: Int):
Short = asDynamic()[index]\n\n@Suppress(\ "INVISIBLE_REFERENCE" ),
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.set(index: Int,

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value: Short) { asDynamic()[index] = value } \n\n/** \n * Exposes the JavaScript
[Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin \n * \npublic external open class
Int32Array : ArrayBufferView { \n  constructor(length: Int) \n  constructor(array: Int32Array) \n
constructor(array: Array<Int>) \n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally) \n  open val length: Int \n  override val buffer: ArrayBuffer \n  override val byteOffset: Int \n
override val byteLength: Int \n  fun set(array: Int32Array, offset: Int = definedExternally) \n  fun set(array:
Array<Int>, offset: Int = definedExternally) \n  fun subarray(start: Int, end: Int): Int32Array \n\n  companion object
{ \n    val BYTES_PER_ELEMENT: Int \n  } \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Int32Array.get(index: Int): Int
= asDynamic()[index] \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Int32Array.set(index: Int,
value: Int) { asDynamic()[index] = value } \n\n/** \n * Exposes the JavaScript
[Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin \n * \npublic external open
class Uint32Array : ArrayBufferView { \n  constructor(length: Int) \n  constructor(array: Uint32Array) \n
constructor(array: Array<Int>) \n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int
= definedExternally) \n  open val length: Int \n  override val buffer: ArrayBuffer \n  override val byteOffset: Int \n
override val byteLength: Int \n  fun set(array: Uint32Array, offset: Int = definedExternally) \n  fun set(array:
Array<Int>, offset: Int = definedExternally) \n  fun subarray(start: Int, end: Int): Uint32Array \n\n  companion
object { \n    val BYTES_PER_ELEMENT: Int \n  } \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Uint32Array.get(index: Int):
Int = asDynamic()[index] \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Uint32Array.set(index: Int,
value: Int) { asDynamic()[index] = value } \n\n/** \n * Exposes the JavaScript
[Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin \n * \npublic external open
class Float32Array : ArrayBufferView { \n  constructor(length: Int) \n  constructor(array: Float32Array) \n
constructor(array: Array<Float>) \n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally) \n  open val length: Int \n  override val buffer: ArrayBuffer \n  override val byteOffset:
Int \n  override val byteLength: Int \n  fun set(array: Float32Array, offset: Int = definedExternally) \n  fun
set(array: Array<Float>, offset: Int = definedExternally) \n  fun subarray(start: Int, end: Int): Float32Array \n\n
companion object { \n    val BYTES_PER_ELEMENT: Int \n  } \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Float32Array.get(index: Int):
Float = asDynamic()[index] \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Float32Array.set(index: Int,
value: Float) { asDynamic()[index] = value } \n\n/** \n * Exposes the JavaScript
[Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin \n * \npublic external open
class Float64Array : ArrayBufferView { \n  constructor(length: Int) \n  constructor(array: Float64Array) \n
constructor(array: Array<Double>) \n  constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally) \n  open val length: Int \n  override val buffer: ArrayBuffer \n  override val byteOffset:
Int \n  override val byteLength: Int \n  fun set(array: Float64Array, offset: Int = definedExternally) \n  fun
set(array: Array<Double>, offset: Int = definedExternally) \n  fun subarray(start: Int, end: Int): Float64Array \n\n
companion object { \n    val BYTES_PER_ELEMENT: Int \n  } \n} \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Float64Array.get(index: Int):
Double = asDynamic()[index] \n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n@kotlin.internal.InlineOnly \npublic inline operator fun Float64Array.set(index: Int,
value: Double) { asDynamic()[index] = value } \n\n/** \n * Exposes the JavaScript
[DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin \n * \npublic external open class

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DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength: Int = definedExternally) :
ArrayBufferView {\n  override val buffer: ArrayBuffer\n  override val byteOffset: Int\n  override val
byteLength: Int\n  fun getInt8(byteOffset: Int): Byte\n  fun getUInt8(byteOffset: Int): Byte\n  fun
getInt16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short\n  fun getUInt16(byteOffset: Int,
littleEndian: Boolean = definedExternally): Short\n  fun getInt32(byteOffset: Int, littleEndian: Boolean =
definedExternally): Int\n  fun getUInt32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int\n  fun
getFloat32(byteOffset: Int, littleEndian: Boolean = definedExternally): Float\n  fun getFloat64(byteOffset: Int,
littleEndian: Boolean = definedExternally): Double\n  fun setInt8(byteOffset: Int, value: Byte)\n  fun
setUInt8(byteOffset: Int, value: Byte)\n  fun setInt16(byteOffset: Int, value: Short, littleEndian: Boolean =
definedExternally)\n  fun setUInt16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally)\n
fun setInt32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)\n  fun setUInt32(byteOffset: Int,
value: Int, littleEndian: Boolean = definedExternally)\n  fun setFloat32(byteOffset: Int, value: Float, littleEndian:
Boolean = definedExternally)\n  fun setFloat64(byteOffset: Int, value: Double, littleEndian: Boolean =
definedExternally)\n}\n\npublic external interface BufferDataSource\n\npublic external interface
TexImageSource", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n *
Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for
details\n\npackage org.w3c.dom.clipboard\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface ClipboardEventInit : EventInit {\n  var
clipboardData: DataTransfer? /* = null */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\n\npublic inline fun ClipboardEventInit(clipboardData:
DataTransfer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
ClipboardEventInit {\n  val o = js("{}")\n  o["clipboardData"] = clipboardData\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\n\npublic external
open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {\n  open
val clipboardData: DataTransfer?\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n
}\n}\n\n/**\n * Exposes the JavaScript [Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to
Kotlin\n */\n\npublic external abstract class Clipboard : EventTarget {\n  fun read(): Promise<DataTransfer>\n  fun
readText(): Promise<String>\n  fun write(data: DataTransfer): Promise<Unit>\n  fun writeText(data: String):
Promise<Unit>\n}\n\npublic external interface ClipboardPermissionDescriptor {\n  var allowWithoutGesture:
Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\n\npublic inline fun
ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {\n  val
o = js("{}")\n  o["allowWithoutGesture"] = allowWithoutGesture\n  return o\n}\n\n/* Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.css\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\npublic external abstract class MediaList :
ItemArrayLike<String> {\n  open var mediaText: String\n  fun appendMedium(medium: String)\n  fun
deleteMedium(medium: String)\n  override fun item(index: Int):
String?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\n\npublic inline operator fun MediaList.get(index: Int):
String? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin\n */\n\npublic external abstract

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class StyleSheet {\n  open val type: String\n  open val href: String?\n  open val ownerNode:
UnionElementOrProcessingInstruction?\n  open val parentStyleSheet: StyleSheet?\n  open val title: String?\n
open val media: MediaList\n  open var disabled: Boolean\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin\n */\n\npublic external
abstract class CSSStyleSheet : StyleSheet {\n  open val ownerRule: CSSRule?\n  open val cssRules:
CSSRuleList\n  fun insertRule(rule: String, index: Int): Int\n  fun deleteRule(index: Int)\n}\n\n/**\n * Exposes the
JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin\n */\n\npublic
external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {\n  override fun item(index: Int):
StyleSheet?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\n\npublic inline operator fun StyleSheetList.get(index: Int):
StyleSheet? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle) to Kotlin\n */\n\npublic external interface
LinkStyle {\n  val sheet: StyleSheet?\n  get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin\n */\n\npublic external abstract
class CSSRuleList : ItemArrayLike<CSSRule> {\n  override fun item(index: Int):
CSSRule?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\n\npublic inline operator fun CSSRuleList.get(index: Int):
CSSRule? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin\n */\n\npublic external abstract class
CSSRule {\n  open val type: Short\n  open var cssText: String\n  open val parentRule: CSSRule?\n  open val
parentStyleSheet: CSSStyleSheet?\n\n  companion object {\n    val STYLE_RULE: Short\n    val
CHARSET_RULE: Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val
FONT_FACE_RULE: Short\n    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val
NAMESPACE_RULE: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n */\n\npublic external
abstract class CSSStyleRule : CSSRule {\n  open var selectorText: String\n  open val style:
CSSStyleDeclaration\n\n  companion object {\n    val STYLE_RULE: Short\n    val CHARSET_RULE:
Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val FONT_FACE_RULE: Short\n
    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val NAMESPACE_RULE: Short\n
  }\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n  open val href: String\n  open val media:
MediaList\n  open val styleSheet: CSSStyleSheet\n\n  companion object {\n    val STYLE_RULE: Short\n
    val CHARSET_RULE: Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val
FONT_FACE_RULE: Short\n    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val
NAMESPACE_RULE: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n */\n\npublic
external abstract class CSSGroupingRule : CSSRule {\n  open val cssRules: CSSRuleList\n  fun insertRule(rule:
String, index: Int): Int\n  fun deleteRule(index: Int)\n\n  companion object {\n    val STYLE_RULE: Short\n
    val CHARSET_RULE: Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val
FONT_FACE_RULE: Short\n    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val
NAMESPACE_RULE: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n */\n\npublic external
abstract class CSSMediaRule : CSSGroupingRule {\n  open val media: MediaList\n\n  companion object {\n
    val STYLE_RULE: Short\n    val CHARSET_RULE: Short\n    val IMPORT_RULE: Short\n    val
MEDIA_RULE: Short\n    val FONT_FACE_RULE: Short\n    val PAGE_RULE: Short\n    val
MARGIN_RULE: Short\n    val NAMESPACE_RULE: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n */\n\npublic external
abstract class CSSPageRule : CSSGroupingRule {\n  open var selectorText: String\n  open val style:
CSSStyleDeclaration\n\n  companion object {\n    val STYLE_RULE: Short\n    val CHARSET_RULE:

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Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val FONT_FACE_RULE: Short\n
    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val NAMESPACE_RULE: Short\n
}\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n    open val name: String\n    open val style:
CSSStyleDeclaration\n\n    companion object {\n        val STYLE_RULE: Short\n        val CHARSET_RULE:
Short\n        val IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val FONT_FACE_RULE: Short\n
        val PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val NAMESPACE_RULE: Short\n
}\n}\n\n/*\n * Exposes the JavaScript
[CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n */\n\npublic
external abstract class CSSNamespaceRule : CSSRule {\n    open val namespaceURI: String\n    open val prefix:
String\n\n    companion object {\n        val STYLE_RULE: Short\n        val CHARSET_RULE: Short\n        val
IMPORT_RULE: Short\n        val MEDIA_RULE: Short\n        val FONT_FACE_RULE: Short\n        val
PAGE_RULE: Short\n        val MARGIN_RULE: Short\n        val NAMESPACE_RULE: Short\n    }\n}\n\n/*\n *
Exposes the JavaScript
[CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n */\n\npublic
external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n    open var cssText: String\n    open val
parentRule: CSSRule?\n    open var cssFloat: String\n    open var alignContent: String\n    open var alignItems:
String\n    open var alignSelf: String\n    open var animation: String\n    open var animationDelay: String\n    open
var animationDirection: String\n    open var animationDuration: String\n    open var animationFillMode: String\n
    open var animationIterationCount: String\n    open var animationName: String\n    open var animationPlayState:
String\n    open var animationTimingFunction: String\n    open var backfaceVisibility: String\n    open var
background: String\n    open var backgroundAttachment: String\n    open var backgroundClip: String\n    open var
backgroundColor: String\n    open var backgroundImage: String\n    open var backgroundOrigin: String\n    open var
backgroundPosition: String\n    open var backgroundRepeat: String\n    open var backgroundSize: String\n    open
var border: String\n    open var borderBottom: String\n    open var borderBottomColor: String\n    open var
borderBottomLeftRadius: String\n    open var borderBottomRightRadius: String\n    open var borderBottomStyle:
String\n    open var borderBottomWidth: String\n    open var borderCollapse: String\n    open var borderColor:
String\n    open var borderImage: String\n    open var borderImageOutset: String\n    open var borderImageRepeat:
String\n    open var borderImageSlice: String\n    open var borderImageSource: String\n    open var
borderImageWidth: String\n    open var borderLeft: String\n    open var borderLeftColor: String\n    open var
borderLeftStyle: String\n    open var borderLeftWidth: String\n    open var borderRadius: String\n    open var
borderRight: String\n    open var borderRightColor: String\n    open var borderRightStyle: String\n    open var
borderRightWidth: String\n    open var borderSpacing: String\n    open var borderStyle: String\n    open var
borderTop: String\n    open var borderTopColor: String\n    open var borderTopLeftRadius: String\n    open var
borderTopRightRadius: String\n    open var borderTopStyle: String\n    open var borderTopWidth: String\n    open
var borderWidth: String\n    open var bottom: String\n    open var boxDecorationBreak: String\n    open var
boxShadow: String\n    open var boxSizing: String\n    open var breakAfter: String\n    open var breakBefore:
String\n    open var breakInside: String\n    open var captionSide: String\n    open var clear: String\n    open var clip:
String\n    open var color: String\n    open var columnCount: String\n    open var columnFill: String\n    open var
columnGap: String\n    open var columnRule: String\n    open var columnRuleColor: String\n    open var
columnRuleStyle: String\n    open var columnRuleWidth: String\n    open var columnSpan: String\n    open var
columnWidth: String\n    open var columns: String\n    open var content: String\n    open var counterIncrement:
String\n    open var counterReset: String\n    open var cursor: String\n    open var direction: String\n    open var
display: String\n    open var emptyCells: String\n    open var filter: String\n    open var flex: String\n    open var
flexBasis: String\n    open var flexDirection: String\n    open var flexFlow: String\n    open var flexGrow: String\n
    open var flexShrink: String\n    open var flexWrap: String\n    open var font: String\n    open var fontFamily:
String\n    open var fontFeatureSettings: String\n    open var fontKerning: String\n    open var
fontLanguageOverride: String\n    open var fontSize: String\n    open var fontSizeAdjust: String\n    open var
fontStretch: String\n    open var fontStyle: String\n    open var fontSynthesis: String\n    open var fontVariant:

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String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var
fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n
open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n
open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open var
imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var
justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n
open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var
listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom:
String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open
var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n
open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n
open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight:
String\n open var maxWidth: String\n open var minHeight: String\n open var minWidth: String\n open var
navDown: String\n open var navIndex: String\n open var navLeft: String\n open var navRight: String\n open
var navUp: String\n open var objectFit: String\n open var objectPosition: String\n open var opacity: String\n
open var order: String\n open var orphans: String\n open var outline: String\n open var outlineColor: String\n
open var outlineOffset: String\n open var outlineStyle: String\n open var outlineWidth: String\n open var
overflowWrap: String\n open var overflowX: String\n open var overflowY: String\n open var padding:
String\n open var paddingBottom: String\n open var paddingLeft: String\n open var paddingRight: String\n
open var paddingTop: String\n open var pageBreakAfter: String\n open var pageBreakBefore: String\n open
var pageBreakInside: String\n open var perspective: String\n open var perspectiveOrigin: String\n open var
phonemes: String\n open var position: String\n open var quotes: String\n open var resize: String\n open var
rest: String\n open var restAfter: String\n open var restBefore: String\n open var right: String\n open var
tabSize: String\n open var tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n
open var textCombineUpright: String\n open var textDecoration: String\n open var textDecorationColor:
String\n open var textDecorationLine: String\n open var textDecorationStyle: String\n open var textIndent:
String\n open var textJustify: String\n open var textOrientation: String\n open var textOverflow: String\n
open var textShadow: String\n open var textTransform: String\n open var textUnderlinePosition: String\n open
var top: String\n open var transform: String\n open var transformOrigin: String\n open var transformStyle:
String\n open var transition: String\n open var transitionDelay: String\n open var transitionDuration: String\n
open var transitionProperty: String\n open var transitionTimingFunction: String\n open var unicodeBidi:
String\n open var verticalAlign: String\n open var visibility: String\n open var voiceBalance: String\n open
var voiceDuration: String\n open var voicePitch: String\n open var voicePitchRange: String\n open var
voiceRate: String\n open var voiceStress: String\n open var voiceVolume: String\n open var whiteSpace:
String\n open var widows: String\n open var width: String\n open var wordBreak: String\n open var
wordSpacing: String\n open var wordWrap: String\n open var writingMode: String\n open var zIndex: String\n
open var _dashed_attribute: String\n open var _camel_cased_attribute: String\n open var
_webkit_cased_attribute: String\n fun getPropertyValue(property: String): String\n fun
getPropertyPriority(property: String): String\n fun setProperty(property: String, value: String, priority: String =
definedExternally)\n fun setPropertyValue(property: String, value: String)\n fun setPropertyPriority(property:
String, priority: String)\n fun removeProperty(property: String): String\n override fun item(index: Int):
String\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
CSSStyleDeclaration.get(index: Int): String? = asDynamic()[index]\n\npublic external interface
ElementCSSInlineStyle {\n val style: CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript
[CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n *\n\npublic external abstract class CSS {\n
companion object {\n fun escape(ident: String): String\n }\n}\n\npublic external interface
UnionElementOrProcessingInstruction", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming

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Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*^\\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\\n// See github.com/kotlin/dukat for details\\n\\npackage org.w3c.dom.encryptedmedia\\n\\nimport kotlin.js.\*\\nimport org.khronos.webgl.\*\\nimport org.w3c.dom.\*\\nimport org.w3c.dom.events.\*\\n\\n/\*\*\\n \* Exposes the JavaScript [MediaKeySystemConfiguration](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemConfiguration) to Kotlin\\n \*^\\npublic external interface MediaKeySystemConfiguration {\\n var label: String? /\* = \\\"\\\" \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var initDataTypes: Array<String>? /\* = arrayOf() \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var audioCapabilities: Array<MediaKeySystemMediaCapability>? /\* = arrayOf() \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var videoCapabilities: Array<MediaKeySystemMediaCapability>? /\* = arrayOf() \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var distinctiveIdentifier: MediaKeysRequirement? /\* = MediaKeysRequirement.OPTIONAL \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var persistentState: MediaKeysRequirement? /\* = MediaKeysRequirement.OPTIONAL \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var sessionTypes: Array<String>?\\n get() = definedExternally\\n set(value) = definedExternally\\n}\\n\\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\\n@kotlin.internal.InlineOnly\\npublic inline fun MediaKeySystemConfiguration(label: String? = \\\"\\\", initDataTypes: Array<String>? = arrayOf(), audioCapabilities: Array<MediaKeySystemMediaCapability>? = arrayOf(), videoCapabilities: Array<MediaKeySystemMediaCapability>? = arrayOf(), distinctiveIdentifier: MediaKeysRequirement? = MediaKeysRequirement.OPTIONAL, persistentState: MediaKeysRequirement? = MediaKeysRequirement.OPTIONAL, sessionTypes: Array<String>? = undefined): MediaKeySystemConfiguration {\\n val o = js(\"({})\")\\n o[\"label\"] = label\\n o[\"initDataTypes\"] = initDataTypes\\n o[\"audioCapabilities\"] = audioCapabilities\\n o[\"videoCapabilities\"] = videoCapabilities\\n o[\"distinctiveIdentifier\"] = distinctiveIdentifier\\n o[\"persistentState\"] = persistentState\\n o[\"sessionTypes\"] = sessionTypes\\n return o\\n}\\n\\npublic external interface MediaKeySystemMediaCapability {\\n var contentType: String? /\* = \\\"\\\" \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n var robustness: String? /\* = \\\"\\\" \*^\\n get() = definedExternally\\n set(value) = definedExternally\\n}\\n\\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\\n@kotlin.internal.InlineOnly\\npublic inline fun MediaKeySystemMediaCapability(contentType: String? = \\\"\\\", robustness: String? = \\\"\\\"): MediaKeySystemMediaCapability {\\n val o = js(\"({})\")\\n o[\"contentType\"] = contentType\\n o[\"robustness\"] = robustness\\n return o\\n}\\n\\n/\*\*\\n \* Exposes the JavaScript [MediaKeySystemAccess](https://developer.mozilla.org/en/docs/Web/API/MediaKeySystemAccess) to Kotlin\\n \*^\\npublic external abstract class MediaKeySystemAccess {\\n open val keySystem: String\\n fun getConfiguration(): MediaKeySystemConfiguration\\n fun createMediaKeys(): Promise<MediaKeys>\\n}\\n\\n/\*\*\\n \* Exposes the JavaScript [MediaKeys](https://developer.mozilla.org/en/docs/Web/API/MediaKeys) to Kotlin\\n \*^\\npublic external abstract class MediaKeys {\\n fun createSession(sessionType: MediaKeySessionType = definedExternally): MediaKeySession\\n fun setServerCertificate(serverCertificate: dynamic): Promise<Boolean>\\n}\\n\\n/\*\*\\n \* Exposes the JavaScript [MediaKeySession](https://developer.mozilla.org/en/docs/Web/API/MediaKeySession) to Kotlin\\n \*^\\npublic external abstract class MediaKeySession : EventTarget {\\n open val sessionId: String\\n open val expiration: Double\\n open val closed: Promise<Unit>\\n open val keyStatuses: MediaKeyStatusMap\\n open var onkeystatuseschange: ((Event) -> dynamic)?\\n open var onmessage: ((MessageEvent) -> dynamic)?\\n fun generateRequest(initDataType: String, initData: dynamic): Promise<Unit>\\n fun load(sessionId: String): Promise<Boolean>\\n fun update(response: dynamic): Promise<Unit>\\n fun close(): Promise<Unit>\\n fun remove(): Promise<Unit>\\n}\\n\\n/\*\*\\n \* Exposes the JavaScript [MediaKeyStatusMap](https://developer.mozilla.org/en/docs/Web/API/MediaKeyStatusMap) to Kotlin\\n \*^\\npublic



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external abstract class MediaKeyStatusMap {\n  open val size: Int\n  fun has(keyId: dynamic): Boolean\n  fun
get(keyId: dynamic): Any?\n}\n\n/**\n * Exposes the JavaScript
[MediaKeyMessageEvent](https://developer.mozilla.org/en/docs/Web/API/MediaKeyMessageEvent) to Kotlin\n
*\npublic external open class MediaKeyMessageEvent(type: String, eventInitDict: MediaKeyMessageEventInit) :
Event {\n  open val messageType: MediaKeyMessageType\n  open val message: ArrayBuffer\n\n  companion
object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val
BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface MediaKeyMessageEventInit : EventInit {\n  var
messageType: MediaKeyMessageType?\n  var message:
ArrayBuffer?\n}\n\n@Suppress("\nINVISIBLE_REFERENCE"),
"\nINVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaKeyMessageEventInit(messageType: MediaKeyMessageType?, message: ArrayBuffer?, bubbles: Boolean? =
false, cancelable: Boolean? = false, composed: Boolean? = false): MediaKeyMessageEventInit {\n  val o =
js("\n({})")\n  o["messageType"] = messageType\n  o["message"] = message\n  o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\npublic external open class
MediaEncryptedEvent(type: String, eventInitDict: MediaEncryptedEventInit = definedExternally) : Event {\n
open val initDataType: String\n  open val initData: ArrayBuffer?\n\n  companion object {\n    val NONE:
Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE:
Short\n  }\n}\n\npublic external interface MediaEncryptedEventInit : EventInit {\n  var initDataType: String? /* =
"\n" */\n  get() = definedExternally\n  set(value) = definedExternally\n  var initData: ArrayBuffer? /* = null
*/\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("\nINVISIBLE_REFERENCE"),
"\nINVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
MediaEncryptedEventInit(initDataType: String? = "\n", initData: ArrayBuffer? = null, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): MediaEncryptedEventInit {\n  val o = js("\n({})")\n
o["initDataType"] = initDataType\n  o["initData"] = initData\n  o["bubbles"] = bubbles\n  o["cancelable"]
= cancelable\n  o["composed"] = composed\n  return o\n}\n\n/* please, don't implement this interface!
*/\n\n@JsName("\nnull")\n@Suppress("\nNESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeysRequirement {\n  companion object\n}\n\npublic inline val
MediaKeysRequirement.Companion.REQUIRED: MediaKeysRequirement get() =
"\nrequired".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val
MediaKeysRequirement.Companion.OPTIONAL: MediaKeysRequirement get() =
"\noptional".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val
MediaKeysRequirement.Companion.NOT_ALLOWED: MediaKeysRequirement get() = "\nnot-
allowed".asDynamic().unsafeCast<MediaKeysRequirement>()\n\n/* please, don't implement this interface!
*/\n\n@JsName("\nnull")\n@Suppress("\nNESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeySessionType {\n  companion object\n}\n\npublic inline val
MediaKeySessionType.Companion.TEMPORARY: MediaKeySessionType get() =
"\ntemporary".asDynamic().unsafeCast<MediaKeySessionType>()\n\npublic inline val
MediaKeySessionType.Companion.PERSISTENT_LICENSE: MediaKeySessionType get() = "\npersistent-
license".asDynamic().unsafeCast<MediaKeySessionType>()\n\n/* please, don't implement this interface!
*/\n\n@JsName("\nnull")\n@Suppress("\nNESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaKeyStatus {\n  companion object\n}\n\npublic inline val MediaKeyStatus.Companion.USABLE:
MediaKeyStatus get() = "\nusable".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.EXPIRED: MediaKeyStatus get() =
"\nexpired".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.RELEASED: MediaKeyStatus get() =
"\nreleased".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.OUTPUT_RESTRICTED: MediaKeyStatus get() = "\noutput-

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restricted`.asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.OUTPUT_DOWNSCALED: MediaKeyStatus get() = `\"output-
downscaled`.asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.STATUS_PENDING: MediaKeyStatus get() = `\"status-
pending`.asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
MediaKeyStatus.Companion.INTERNAL_ERROR: MediaKeyStatus get() = `\"internal-
error`.asDynamic().unsafeCast<MediaKeyStatus>()\n\n/* please, don't implement this interface!
*\n\n@JsName(`\"null`\")\n\n@Suppress(`\"NESTED_CLASS_IN_EXTERNAL_INTERFACE`\")\n\npublic external
interface MediaKeyMessageType {\n    companion object{\n}\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_REQUEST: MediaKeyMessageType get() = `\"license-
request`.asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_RENEWAL: MediaKeyMessageType get() = `\"license-
renewal`.asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.LICENSE_RELEASE: MediaKeyMessageType get() = `\"license-
release`.asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val
MediaKeyMessageType.Companion.INDIVIDUALIZATION_REQUEST: MediaKeyMessageType get() =
`\"individualization-request`.asDynamic().unsafeCast<MediaKeyMessageType>()\n\n/*\n\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n\n *\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.events\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\n\n/**\n\n * Exposes
the JavaScript [UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n\n *\n\npublic external
open class UIEvent(type: String, eventInitDict: UIEventInit = definedExternally) : Event {\n    open val view:
Window?\n    open val detail: Int?\n\n    companion object {\n        val NONE: Short?\n        val
CAPTURING_PHASE: Short?\n        val AT_TARGET: Short?\n        val BUBBLING_PHASE: Short?\n
}\n}\n\npublic external interface UIEventInit : EventInit {\n    var view: Window? /* = null *\n    get() =
definedExternally\n    set(value) = definedExternally\n    var detail: Int? /* = 0 *\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(`\"INVISIBLE_REFERENCE\"`,
`\"INVISIBLE_MEMBER`\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun UIEventInit(view: Window? = null,
detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): UIEventInit
{\n    val o = js(`\"({})`\")\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n\n * Exposes the JavaScript
[FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent) to Kotlin\n\n *\n\npublic external open class
FocusEvent(type: String, eventInitDict: FocusEventInit = definedExternally) : UIEvent {\n    open val relatedTarget:
EventTarget?\n\n    companion object {\n        val NONE: Short?\n        val CAPTURING_PHASE: Short?\n        val
AT_TARGET: Short?\n        val BUBBLING_PHASE: Short?\n    }\n}\n\npublic external interface FocusEventInit :
UIEventInit {\n    var relatedTarget: EventTarget? /* = null *\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(`\"INVISIBLE_REFERENCE\"`,
`\"INVISIBLE_MEMBER`\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun FocusEventInit(relatedTarget:
EventTarget? = null, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): FocusEventInit {\n    val o = js(`\"({})`\")\n    o[\"relatedTarget\"] =
relatedTarget\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] =
cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n\n * Exposes the JavaScript
[MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin\n\n *\n\npublic external open
class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) : UIEvent,
UnionElementOrMouseEvent {\n    open val screenX: Int?\n    open val screenY: Int?\n    open val clientX: Int?\n
open val clientY: Int?\n    open val ctrlKey: Boolean?\n    open val shiftKey: Boolean?\n    open val altKey: Boolean?\n
open val metaKey: Boolean?\n    open val button: Short?\n    open val buttons: Short?\n    open val relatedTarget:

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EventTarget? \n open val region: String? \n open val pageX: Double \n open val pageY: Double \n open val x:
Double \n open val y: Double \n open val offsetX: Double \n open val offsetY: Double \n fun
getModifierState(keyArg: String): Boolean \n \n companion object { \n val NONE: Short \n val
CAPTURING_PHASE: Short \n val AT_TARGET: Short \n val BUBBLING_PHASE: Short \n
} \n \n \n public external interface MouseEventInit : EventModifierInit { \n var screenX: Int? /* = 0 */ \n get() =
definedExternally \n set(value) = definedExternally \n var screenY: Int? /* = 0 */ \n get() =
definedExternally \n set(value) = definedExternally \n var clientX: Int? /* = 0 */ \n get() =
definedExternally \n set(value) = definedExternally \n var clientY: Int? /* = 0 */ \n get() =
definedExternally \n set(value) = definedExternally \n var button: Short? /* = 0 */ \n get() =
definedExternally \n set(value) = definedExternally \n var buttons: Short? /* = 0 */ \n get() =
definedExternally \n set(value) = definedExternally \n var relatedTarget: EventTarget? /* = null */ \n get()
= definedExternally \n set(value) = definedExternally \n var region: String? /* = null */ \n get() =
definedExternally \n set(value) = definedExternally \n \n \n @Suppress("\INVISIBLE_REFERENCE",
"\INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun MouseEventInit(screenX: Int? = 0,
screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget:
EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean?
= false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false,
modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false,
modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false,
modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MouseEventInit { \n val o =
js("\({})") \n o["screenX"] = screenX \n o["screenY"] = screenY \n o["clientX"] = clientX \n o["clientY"]
= clientY \n o["button"] = button \n o["buttons"] = buttons \n o["relatedTarget"] = relatedTarget \n
o["region"] = region \n o["ctrlKey"] = ctrlKey \n o["shiftKey"] = shiftKey \n o["altKey"] = altKey \n
o["metaKey"] = metaKey \n o["modifierAltGraph"] = modifierAltGraph \n o["modifierCapsLock"] =
modifierCapsLock \n o["modifierFn"] = modifierFn \n o["modifierFnLock"] = modifierFnLock \n
o["modifierHyper"] = modifierHyper \n o["modifierNumLock"] = modifierNumLock \n
o["modifierScrollLock"] = modifierScrollLock \n o["modifierSuper"] = modifierSuper \n
o["modifierSymbol"] = modifierSymbol \n o["modifierSymbolLock"] = modifierSymbolLock \n o["view"] =
view \n o["detail"] = detail \n o["bubbles"] = bubbles \n o["cancelable"] = cancelable \n o["composed"] =
composed \n return o \n \n \n public external interface EventModifierInit : UIEventInit { \n var ctrlKey: Boolean?
/* = false */ \n get() = definedExternally \n set(value) = definedExternally \n var shiftKey: Boolean? /* =
false */ \n get() = definedExternally \n set(value) = definedExternally \n var altKey: Boolean? /* = false
*/ \n get() = definedExternally \n set(value) = definedExternally \n var metaKey: Boolean? /* = false */ \n
get() = definedExternally \n set(value) = definedExternally \n var modifierAltGraph: Boolean? /* = false */ \n
get() = definedExternally \n set(value) = definedExternally \n var modifierCapsLock: Boolean? /* = false
*/ \n get() = definedExternally \n set(value) = definedExternally \n var modifierFn: Boolean? /* = false */ \n
get() = definedExternally \n set(value) = definedExternally \n var modifierFnLock: Boolean? /* = false */ \n
get() = definedExternally \n set(value) = definedExternally \n var modifierHyper: Boolean? /* = false */ \n
get() = definedExternally \n set(value) = definedExternally \n var modifierNumLock: Boolean? /* = false */ \n
get() = definedExternally \n set(value) = definedExternally \n var modifierScrollLock: Boolean? /* = false
*/ \n get() = definedExternally \n set(value) = definedExternally \n var modifierSuper: Boolean? /* = false
*/ \n get() = definedExternally \n set(value) = definedExternally \n var modifierSymbol: Boolean? /* = false
*/ \n get() = definedExternally \n set(value) = definedExternally \n var modifierSymbolLock: Boolean? /* =
false */ \n get() = definedExternally \n set(value) =
definedExternally \n \n \n @Suppress("\INVISIBLE_REFERENCE",
"\INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun EventModifierInit(ctrlKey: Boolean? =
false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:

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Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): EventModifierInit {\n  val o = js(\("{})\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n
o["altKey"] = altKey\n  o["metaKey"] = metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n  o["modifierFn"] = modifierFn\n  o["modifierFnLock"] =
modifierFnLock\n  o["modifierHyper"] = modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n  o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] =
view\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n  return o\n}\n\n/**\n * Exposes the JavaScript

```

```

[WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent) to Kotlin\n */\npublic external open
class WheelEvent(type: String, eventInitDict: WheelEventInit = definedExternally) : MouseEvent {\n  open val
deltaX: Double\n  open val deltaY: Double\n  open val deltaZ: Double\n  open val deltaMode: Int\n\n  companion object {\n    val DOM_DELTA_PIXEL: Int\n    val DOM_DELTA_LINE: Int\n    val
DOM_DELTA_PAGE: Int\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n\n  public external interface WheelEventInit :
MouseEventInit {\n    var deltaX: Double? /* = 0.0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var deltaY: Double? /* = 0.0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var deltaZ: Double? /* = 0.0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var deltaMode: Int? /* = 0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n  }\n\n  @Suppress(\n"INVISIBLE_REFERENCE",
\n"INVISIBLE_MEMBER")\n  @kotlin.internal.InlineOnly\n  public inline fun WheelEventInit(deltaX: Double? = 0.0,
deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0, screenX: Int? = 0, screenY: Int? = 0, clientX:
Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region:
String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean?
= false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false,
modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false,
modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false,
modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n    val o = js(\("{})\n
o["deltaX"] = deltaX\n  o["deltaY"] = deltaY\n  o["deltaZ"] = deltaZ\n  o["deltaMode"] = deltaMode\n
o["screenX"] = screenX\n  o["screenY"] = screenY\n  o["clientX"] = clientX\n  o["clientY"] = clientY\n
o["button"] = button\n  o["buttons"] = buttons\n  o["relatedTarget"] = relatedTarget\n  o["region"] =
region\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] = altKey\n  o["metaKey"] =
metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n  o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n  o["modifierFnLock"] = modifierFnLock\n  o["modifierHyper"] =
modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n  o["modifierScrollLock"] =
modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n  o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] = view\n  o["detail"] = detail\n
o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return
o\n}\n\n/**\n * Exposes the JavaScript [InputEvent](https://developer.mozilla.org/en/docs/Web/API/InputEvent) to
Kotlin\n */\npublic external open class InputEvent(type: String, eventInitDict: InputEventInit = definedExternally) :
UIEvent {\n  open val data: String\n  open val isComposing: Boolean\n\n  companion object {\n    val NONE:
Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE:
Short\n  }\n\n  public external interface InputEventInit : UIEventInit {\n    var data: String? /* = "" */\n
get() = definedExternally\n    set(value) = definedExternally\n    var isComposing: Boolean? /* = false */\n

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```

get() = definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun InputEventInit(data: String? = \"\",
isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): InputEventInit {\n    val o = js(\"({})\")\n    o[\"data\"] = data\n    o[\"isComposing\"] = isComposing\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin\n *\npublic external
open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n
    open val key: String\n    open val code: String\n    open val location: Int\n    open val ctrlKey: Boolean\n    open val
    shiftKey: Boolean\n    open val altKey: Boolean\n    open val metaKey: Boolean\n    open val repeat: Boolean\n
    open val isComposing: Boolean\n    open val charCode: Int\n    open val keyCode: Int\n    open val which: Int\n
    fun getModifierState(keyArg: String): Boolean\n\n    companion object {\n        val
        DOM_KEY_LOCATION_STANDARD: Int\n        val DOM_KEY_LOCATION_LEFT: Int\n        val
        DOM_KEY_LOCATION_RIGHT: Int\n        val DOM_KEY_LOCATION_NUMPAD: Int\n        val NONE:
        Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE:
        Short\n    }\n}\n\npublic external interface KeyboardEventInit : EventModifierInit {\n    var key: String? /* = \"\"
*/\n    get() = definedExternally\n    set(value) = definedExternally\n    var code: String? /* = \"\" */\n    get()
    = definedExternally\n    set(value) = definedExternally\n    var location: Int? /* = 0 */\n    get() =
    definedExternally\n    set(value) = definedExternally\n    var repeat: Boolean? /* = false */\n    get() =
    definedExternally\n    set(value) = definedExternally\n    var isComposing: Boolean? /* = false */\n    get() =
    definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun KeyboardEventInit(key: String? = \"\",
code: String? = \"\", location: Int? = 0, repeat: Boolean? = false, isComposing: Boolean? = false, ctrlKey: Boolean?
= false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): KeyboardEventInit {\n    val o = js(\"({})\")\n    o[\"key\"] = key\n    o[\"code\"] = code\n    o[\"location\"] =
    location\n    o[\"repeat\"] = repeat\n    o[\"isComposing\"] = isComposing\n    o[\"ctrlKey\"] = ctrlKey\n
    o[\"shiftKey\"] = shiftKey\n    o[\"altKey\"] = altKey\n    o[\"metaKey\"] = metaKey\n    o[\"modifierAltGraph\"] =
    modifierAltGraph\n    o[\"modifierCapsLock\"] = modifierCapsLock\n    o[\"modifierFn\"] = modifierFn\n
    o[\"modifierFnLock\"] = modifierFnLock\n    o[\"modifierHyper\"] = modifierHyper\n    o[\"modifierNumLock\"] =
    modifierNumLock\n    o[\"modifierScrollLock\"] = modifierScrollLock\n    o[\"modifierSuper\"] = modifierSuper\n
    o[\"modifierSymbol\"] = modifierSymbol\n    o[\"modifierSymbolLock\"] = modifierSymbolLock\n    o[\"view\"] =
    view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] =
    composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n *\npublic
external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) :
    UIEvent {\n    open val data: String\n\n    companion object {\n        val NONE: Short\n        val
        CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface CompositionEventInit : UIEventInit {\n    var data: String? /* = \"\" */\n    get() =
    definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CompositionEventInit(data: String? =
\", view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): CompositionEventInit {\n    val o = js(\"({})\")\n    o[\"data\"] = data\n    o[\"view\"] = view\n
    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] =
    composed\n    return o\n}\n\n/**\n * Exposes the JavaScript

```

```

[Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n *\npublic external open class
Event(type: String, eventInitDict: EventInit = definedExternally) {\n  open val type: String\n  open val target:
EventTarget?\n  open val currentTarget: EventTarget?\n  open val eventPhase: Short\n  open val bubbles:
Boolean\n  open val cancelable: Boolean\n  open val defaultPrevented: Boolean\n  open val composed:
Boolean\n  open val isTrusted: Boolean\n  open val timeStamp: Number\n  fun composedPath():
Array<EventTarget>\n  fun stopPropagation()\n  fun stopImmediatePropagation()\n  fun preventDefault()\n
fun initEvent(type: String, bubbles: Boolean, cancelable: Boolean)\n\n  companion object {\n    val NONE:
Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE:
Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n *\npublic external abstract
class EventTarget {\n  fun addEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n  fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n  fun removeEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally)\n  fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally)\n  fun dispatchEvent(event: Event): Boolean\n}\n\n/**\n * Exposes the JavaScript
[EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener) to Kotlin\n *\npublic external
interface EventListener {\n  fun handleEvent(event: Event)\n}\n\n/* Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport
org.w3c.dom.mediasource.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport
org.w3c.xhr.*\n\npublic external abstract class HTMLAllCollection {\n  open val length: Int\n  fun
item(nameOrIndex: String = definedExternally): UnionElementOrHTMLCollection?\n  fun namedItem(name:
String): UnionElementOrHTMLCollection?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLAllCollection.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n/**\n *
Exposes the JavaScript
[HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection)
to Kotlin\n *\npublic external abstract class HTMLFormControlsCollection : HTMLCollection\n\n/**\n * Exposes
the JavaScript [RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n
*\npublic external abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n  open var value:
String\n}\n\n/**\n * Exposes the JavaScript
[HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n
*\npublic external abstract class HTMLOptionsCollection : HTMLCollection {\n  override var length: Int\n  open
var selectedIndex: Int\n  fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before:
dynamic = definedExternally)\n  fun remove(index: Int)\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n *
Exposes the JavaScript [HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to
Kotlin\n *\npublic external abstract class HTMLElement : Element, GlobalEventHandlers,
DocumentAndElementEventHandlers, ElementContentEditable, ElementCSSInlineStyle {\n  open var title:
String\n  open var lang: String\n  open var translate: Boolean\n  open var dir: String\n  open val dataset:

```



```

DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\n/**\n * Exposes the JavaScript
[HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement) to Kotlin\n *\npublic
external abstract class HTMLTitleElement : HTMLElement {\n    open var text: String\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\n/**\n * Exposes the JavaScript
[HTMLBaseElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBaseElement) to Kotlin\n *\npublic
external abstract class HTMLBaseElement : HTMLElement {\n    open var href: String\n    open var target:
String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\n/**\n * Exposes the JavaScript
[HTMLLinkElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLinkElement) to Kotlin\n *\npublic
external abstract class HTMLLinkElement : HTMLElement, LinkStyle {\n    open var href: String\n    open var
crossOrigin: String?\n    open var rel: String\n    open var `as`: RequestDestination\n    open val relList:
DOMTokenList\n    open var media: String\n    open var nonce: String\n    open var hreflang: String\n    open var
type: String\n    open val sizes: DOMTokenList\n    open var referrerPolicy: String\n    open var charset: String\n
    open var rev: String\n    open var target: String\n    open var scope: String\n    open var workerType:
WorkerType\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\n/**\n * Exposes the JavaScript
[HTMLMetaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMetaElement) to Kotlin\n *\npublic
external abstract class HTMLMetaElement : HTMLElement {\n    open var name: String\n    open var httpEquiv:
String\n    open var content: String\n    open var scheme: String\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:

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Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n/**\n * Exposes the JavaScript [HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin\n *\npublic external abstract class HTMLStyleElement : HTMLElement, LinkStyle {\n open var media: String\n open var nonce: String\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n/**\n * Exposes the JavaScript [HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n *\npublic external abstract class HTMLBodyElement : HTMLElement, WindowEventHandlers {\n open var text: String\n open var link: String\n open var vLink: String\n open var aLink: String\n open var bgColor: String\n open var background: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n/**\n * Exposes the JavaScript [HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n *\npublic external abstract class HTMLHeadingElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n\n/**\n * Exposes the JavaScript [HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n *\npublic external abstract class HTMLParagraphElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
```

```

COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement) to Kotlin\n *\npublic
external abstract class HTMLHRElement : HTMLElement {\n    open var align: String\n    open var color: String\n
open var noShade: Boolean\n    open var size: String\n    open var width: String\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n *\npublic
external abstract class HTMLPreElement : HTMLElement {\n    open var width: Int\n\n    companion object {\n
val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n *\npublic
external abstract class HTMLQuoteElement : HTMLElement {\n    open var cite: String\n\n    companion object {\n
val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[HTMLLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLOListElement) to Kotlin\n *\npublic
external abstract class HTMLLOListElement : HTMLElement {\n    open var reversed: Boolean\n    open var start:
Int\n    open var type: String\n    open var compact: Boolean\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val

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[HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n
*\npublic external abstract class HTMLAnchorElement : HTMLInputElement, HTMLHyperlinkElementUtils {\n
open var target: String\n
open var download: String\n
open var ping: String\n
open var rel: String\n
open val relList: DOMTokenList\n
open var hreflang: String\n
open var type: String\n
open var text: String\n
open var referrerPolicy: String\n
open var coords: String\n
open var charset: String\n
open var name: String\n
open var rev: String\n
open var shape: String\n\n
companion object {\n
val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n
val ENTITY_NODE: Short\n
val PROCESSING_INSTRUCTION_NODE: Short\n
val COMMENT_NODE: Short\n
val DOCUMENT_NODE: Short\n
val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n
val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n**\n
* Exposes the JavaScript
[HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n
*\npublic external abstract class HTMLDataElement : HTMLInputElement {\n
open var value: String\n\n
companion object {\n
val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n
val ENTITY_NODE: Short\n
val PROCESSING_INSTRUCTION_NODE: Short\n
val COMMENT_NODE: Short\n
val DOCUMENT_NODE: Short\n
val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n
val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n**\n
* Exposes the JavaScript
[HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin\n
*\npublic external abstract class HTMLTimeElement : HTMLInputElement {\n
open var dateTime: String\n\n
companion object {\n
val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n
val ENTITY_NODE: Short\n
val PROCESSING_INSTRUCTION_NODE: Short\n
val COMMENT_NODE: Short\n
val DOCUMENT_NODE: Short\n
val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n
val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n**\n
* Exposes the JavaScript
[HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin\n
*\npublic external abstract class HTMLSpanElement : HTMLInputElement {\n
companion object {\n
val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n
val ENTITY_NODE: Short\n
val PROCESSING_INSTRUCTION_NODE: Short\n
val COMMENT_NODE: Short\n
val DOCUMENT_NODE: Short\n
val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n
val NOTATION_NODE: Short\n
val DOCUMENT_POSITION_DISCONNECTED: Short\n
val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n
val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n
val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n**\n
* Exposes the JavaScript

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[HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin\n

```

*\npublic external abstract class HTMLBRElement : HTMLBRElement {\n
  open var clear: String\n
  companion object {\n
    val ELEMENT_NODE: Short\n
    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n
    val ENTITY_NODE: Short\n
    val PROCESSING_INSTRUCTION_NODE: Short\n
    val COMMENT_NODE: Short\n
    val DOCUMENT_NODE: Short\n
    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n
    val NOTATION_NODE: Short\n
    val DOCUMENT_POSITION_DISCONNECTED: Short\n
    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n
    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
  }\n}\n\n/**\n * Exposes the JavaScript [HTMLHyperlinkElementUtils](https://developer.mozilla.org/en/docs/Web/API/HTMLHyperlinkElementUtils) to Kotlin\n
*\npublic external interface HTMLHyperlinkElementUtils {\n
  var href: String\n
  val origin: String\n
  var protocol: String\n
  var username: String\n
  var password: String\n
  var host: String\n
  var hostname: String\n
  var port: String\n
  var pathname: String\n
  var search: String\n
  var hash: String\n}\n\n/**\n * Exposes the JavaScript [HTMLModElement](https://developer.mozilla.org/en/docs/Web/API/HTMLModElement) to Kotlin\n
*\npublic external abstract class HTMLModElement : HTMLBRElement {\n
  open var cite: String\n
  open var dateTime: String\n
  companion object {\n
    val ELEMENT_NODE: Short\n
    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n
    val ENTITY_NODE: Short\n
    val PROCESSING_INSTRUCTION_NODE: Short\n
    val COMMENT_NODE: Short\n
    val DOCUMENT_NODE: Short\n
    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n
    val NOTATION_NODE: Short\n
    val DOCUMENT_POSITION_DISCONNECTED: Short\n
    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n
    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
  }\n}\n\n/**\n * Exposes the JavaScript [HTMLPictureElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPictureElement) to Kotlin\n
*\npublic external abstract class HTMLPictureElement : HTMLBRElement {\n
  companion object {\n
    val ELEMENT_NODE: Short\n
    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n
    val ENTITY_NODE: Short\n
    val PROCESSING_INSTRUCTION_NODE: Short\n
    val COMMENT_NODE: Short\n
    val DOCUMENT_NODE: Short\n
    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n
    val NOTATION_NODE: Short\n
    val DOCUMENT_POSITION_DISCONNECTED: Short\n
    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n
    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n
    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
  }\n}\n\n/**\n * Exposes the JavaScript [HTMLSourceElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSourceElement) to Kotlin\n
*\npublic external abstract class HTMLSourceElement : HTMLBRElement {\n
  open var src: String\n
  open var type: String\n
  open var srcset: String\n
  open var sizes: String\n
  open var media: String\n
  companion object {\n
    val ELEMENT_NODE: Short\n
    val ATTRIBUTE_NODE: Short\n
    val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n
    val ENTITY_NODE: Short\n
    val PROCESSING_INSTRUCTION_NODE: Short\n
    val COMMENT_NODE: Short\n
    val DOCUMENT_NODE: Short\n
    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n
    val NOTATION_NODE: Short\n
    val DOCUMENT_POSITION_DISCONNECTED: Short\n
    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n
    val DOCUMENT_POSITION_CONTAINS: Short\n

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val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin\n
*\n\npublic external abstract class HTMLImageElement : HTMLInputElement, HTMLOrSVGImageElement,
TexImageSource {\n    open var alt: String\n    open var src: String\n    open var srcset: String\n    open var sizes:
String\n    open var crossOrigin: String?\n    open var useMap: String\n    open var isMap: Boolean\n    open var
width: Int\n    open var height: Int\n    open val naturalWidth: Int\n    open val naturalHeight: Int\n    open val
complete: Boolean\n    open val currentSrc: String\n    open var referrerPolicy: String\n    open var name: String\n
open var lowsrc: String\n    open var align: String\n    open var hspace: Int\n    open var vspace: Int\n    open var
longDesc: String\n    open var border: String\n    open val x: Int\n    open val y: Int\n\n    companion object {\n
val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin\n
*\n\npublic external abstract class HTMLIFrameElement : HTMLInputElement {\n    open var src: String\n    open var
srcdoc: String\n    open var name: String\n    open val sandbox: DOMTokenList\n    open var allowFullscreen:
Boolean\n    open var allowUserMedia: Boolean\n    open var width: String\n    open var height: String\n    open var
referrerPolicy: String\n    open val contentDocument: Document?\n    open val contentWindow: Window?\n    open
var align: String\n    open var scrolling: String\n    open var frameBorder: String\n    open var longDesc: String\n
open var marginHeight: String\n    open var marginWidth: String\n    fun getSVGDocument(): Document?\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to Kotlin\n
*\n\npublic external abstract class HTMLEmbedElement : HTMLInputElement {\n    open var src: String\n    open var
type: String\n    open var width: String\n    open var height: String\n    open var align: String\n    open var name:
String\n    fun getSVGDocument(): Document?\n\n    companion object {\n        val ELEMENT_NODE: Short\n
        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript

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*\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n  companion object {\n    val
NETWORK_EMPTY: Short\n    val NETWORK_IDLE: Short\n    val NETWORK_LOADING: Short\n
val NETWORK_NO_SOURCE: Short\n    val HAVE_NOTHING: Short\n    val HAVE_METADATA:
Short\n    val HAVE_CURRENT_DATA: Short\n    val HAVE_FUTURE_DATA: Short\n    val
HAVE_ENOUGH_DATA: Short\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n
*\npublic external abstract class HTMLTrackElement : HTMLMElement {\n  open var kind: String\n  open var src: String\n
open var srclang: String\n  open var label: String\n  open var default: Boolean\n  open val readyState: Short\n
open val track: TextTrack\n\n  companion object {\n    val NONE: Short\n    val LOADING: Short\n    val
LOADED: Short\n    val ERROR: Short\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLMediaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMediaElement) to Kotlin\n
*\npublic external abstract class HTMLMediaElement : HTMLMElement {\n  open val error: MediaError?\n  open
var src: String\n  open var srcObject: MediaProvider?\n  open val currentSrc: String\n  open var crossOrigin:
String?\n  open val networkState: Short\n  open var preload: String\n  open val buffered: TimeRanges\n  open
val readyState: Short\n  open val seeking: Boolean\n  open var currentTime: Double\n  open val duration:
Double\n  open val paused: Boolean\n  open var defaultPlaybackRate: Double\n  open var playbackRate:
Double\n  open val played: TimeRanges\n  open val seekable: TimeRanges\n  open val ended: Boolean\n  open
var autoplay: Boolean\n  open var loop: Boolean\n  open var controls: Boolean\n  open var volume: Double\n
open var muted: Boolean\n  open var defaultMuted: Boolean\n  open val audioTracks: AudioTrackList\n  open
val videoTracks: VideoTrackList\n  open val textTracks: TextTrackList\n  open val mediaKeys: MediaKeys?\n
open var onencrypted: ((Event) -> dynamic)?\n  open var onwaitingforkey: ((Event) -> dynamic)?\n  fun load()\n
fun canPlayType(type: String): CanPlayTypeResult\n  fun fastSeek(time: Double)\n  fun getStartDate():
dynamic\n  fun play(): Promise<Unit>\n  fun pause()\n  fun addTextTrack(kind: TextTrackKind, label: String =
definedExternally, language: String = definedExternally): TextTrack\n  fun setMediaKeys(mediaKeys:
MediaKeys?): Promise<Unit>\n\n  companion object {\n    val NETWORK_EMPTY: Short\n    val
NETWORK_IDLE: Short\n    val NETWORK_LOADING: Short\n    val NETWORK_NO_SOURCE: Short\n
    val HAVE_NOTHING: Short\n    val HAVE_METADATA: Short\n    val HAVE_CURRENT_DATA:
Short\n    val HAVE_FUTURE_DATA: Short\n    val HAVE_ENOUGH_DATA: Short\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val

```



DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n } \n} \n \n /\*\* \n \* Exposes the JavaScript  
[MediaError](https://developer.mozilla.org/en/docs/Web/API/MediaError) to Kotlin \n \* \n public external abstract  
class MediaError { \n open val code: Short \n \n companion object { \n val MEDIA\_ERR\_ABORTED: Short \n  
val MEDIA\_ERR\_NETWORK: Short \n val MEDIA\_ERR\_DECODE: Short \n val  
MEDIA\_ERR\_SRC\_NOT\_SUPPORTED: Short \n } \n} \n \n /\*\* \n \* Exposes the JavaScript  
[AudioTrackList](https://developer.mozilla.org/en/docs/Web/API/AudioTrackList) to Kotlin \n \* \n public external  
abstract class AudioTrackList : EventTarget { \n open val length: Int \n open var onchange: ((Event) ->  
dynamic)? \n open var onaddtrack: ((TrackEvent) -> dynamic)? \n open var onremovetrack: ((TrackEvent) ->  
dynamic)? \n fun getTrackById(id: String): AudioTrack? \n} \n \n @Suppress("INVISIBLE\_REFERENCE",  
"INVISIBLE\_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun AudioTrackList.get(index:  
Int): AudioTrack? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript  
[AudioTrack](https://developer.mozilla.org/en/docs/Web/API/AudioTrack) to Kotlin \n \* \n public external abstract  
class AudioTrack : UnionAudioTrackOrTextTrackOrVideoTrack { \n open val id: String \n open val kind:  
String \n open val label: String \n open val language: String \n open var enabled: Boolean \n open val  
sourceBuffer: SourceBuffer? \n} \n \n /\*\* \n \* Exposes the JavaScript  
[VideoTrackList](https://developer.mozilla.org/en/docs/Web/API/VideoTrackList) to Kotlin \n \* \n public external  
abstract class VideoTrackList : EventTarget { \n open val length: Int \n open val selectedIndex: Int \n open var  
onchange: ((Event) -> dynamic)? \n open var onaddtrack: ((TrackEvent) -> dynamic)? \n open var  
onremovetrack: ((TrackEvent) -> dynamic)? \n fun getTrackById(id: String):  
VideoTrack? \n} \n \n @Suppress("INVISIBLE\_REFERENCE",  
"INVISIBLE\_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun VideoTrackList.get(index:  
Int): VideoTrack? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript  
[VideoTrack](https://developer.mozilla.org/en/docs/Web/API/VideoTrack) to Kotlin \n \* \n public external abstract  
class VideoTrack : UnionAudioTrackOrTextTrackOrVideoTrack { \n open val id: String \n open val kind:  
String \n open val label: String \n open val language: String \n open var selected: Boolean \n open val  
sourceBuffer: SourceBuffer? \n} \n \n public external abstract class TextTrackList : EventTarget { \n open val length:  
Int \n open var onchange: ((Event) -> dynamic)? \n open var onaddtrack: ((TrackEvent) -> dynamic)? \n open  
var onremovetrack: ((TrackEvent) -> dynamic)? \n fun getTrackById(id: String):  
TextTrack? \n} \n \n @Suppress("INVISIBLE\_REFERENCE",  
"INVISIBLE\_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun TextTrackList.get(index: Int):  
TextTrack? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript  
[TextTrack](https://developer.mozilla.org/en/docs/Web/API/TextTrack) to Kotlin \n \* \n public external abstract  
class TextTrack : EventTarget, UnionAudioTrackOrTextTrackOrVideoTrack { \n open val kind: TextTrackKind \n  
open val label: String \n open val language: String \n open val id: String \n open val  
inBandMetadataTrackDispatchType: String \n open var mode: TextTrackMode \n open val cues:  
TextTrackCueList? \n open val activeCues: TextTrackCueList? \n open var oncuechange: ((Event) ->  
dynamic)? \n open val sourceBuffer: SourceBuffer? \n fun addCue(cue: TextTrackCue) \n fun removeCue(cue:  
TextTrackCue) \n} \n \n public external abstract class TextTrackCueList { \n open val length: Int \n fun  
getCueById(id: String): TextTrackCue? \n} \n \n @Suppress("INVISIBLE\_REFERENCE",  
"INVISIBLE\_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun TextTrackCueList.get(index:  
Int): TextTrackCue? = asDynamic()[index] \n \n /\*\* \n \* Exposes the JavaScript  
[TextTrackCue](https://developer.mozilla.org/en/docs/Web/API/TextTrackCue) to Kotlin \n \* \n public external  
abstract class TextTrackCue : EventTarget { \n open val track: TextTrack? \n open var id: String \n open var

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startTime: Double\n open var endTime: Double\n open var pauseOnExit: Boolean\n open var onenter: ((Event)
-> dynamic)?\n open var onexit: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[TimeRanges](https://developer.mozilla.org/en/docs/Web/API/TimeRanges) to Kotlin\n */\n\npublic external abstract
class TimeRanges {\n open val length: Int\n fun start(index: Int): Double\n fun end(index: Int):
Double\n}\n\n/**\n * Exposes the JavaScript
[TrackEvent](https://developer.mozilla.org/en/docs/Web/API/TrackEvent) to Kotlin\n */\n\npublic external open class
TrackEvent(type: String, eventInitDict: TrackEventInit = definedExternally) : Event {\n open val track:
UnionAudioTrackOrTextTrackOrVideoTrack?\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface TrackEventInit : EventInit {\n var track:
UnionAudioTrackOrTextTrackOrVideoTrack? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun TrackEventInit(track:
UnionAudioTrackOrTextTrackOrVideoTrack? = null, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): TrackEventInit {\n val o = js(\"({})\")\n o[\"track\"] = track\n o[\"bubbles\"] =
bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the
JavaScript [HTMLMapElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMapElement) to Kotlin\n
*/\n\npublic external abstract class HTMLMapElement : HTMLElement {\n open var name: String\n open val
areas: HTMLCollection\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAreaElement) to Kotlin\n */\n\npublic
external abstract class HTMLAreaElement : HTMLElement, HTMLHyperlinkElementUtils {\n open var alt:
String\n open var coords: String\n open var shape: String\n open var target: String\n open var download:
String\n open var ping: String\n open var rel: String\n open val relList: DOMTokenList\n open var
referrerPolicy: String\n open var noHref: Boolean\n\n companion object {\n val ELEMENT_NODE:
Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE:
Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableElement) to Kotlin\n */\n\npublic
external abstract class HTMLTableElement : HTMLElement {\n open var caption:
HTMLTableCaptionElement?\n open var tHead: HTMLTableSectionElement?\n open var tFoot:
HTMLTableSectionElement?\n open val tBodies: HTMLCollection\n open val rows: HTMLCollection\n open
var align: String\n open var border: String\n open var frame: String\n open var rules: String\n open var
summary: String\n open var width: String\n open var bgColor: String\n open var cellPadding: String\n open

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var cellSpacing: String\n fun createCaption(): HTMLTableCaptionElement\n fun deleteCaption()\n fun
createTHead(): HTMLTableSectionElement\n fun deleteTHead()\n fun createTFoot():
HTMLTableSectionElement\n fun deleteTFoot()\n fun createTBody(): HTMLTableSectionElement\n fun
insertRow(index: Int = definedExternally): HTMLTableRowElement\n fun deleteRow(index: Int)\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableCaptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCaptionElement) to
Kotlin\n */\npublic external abstract class HTMLTableCaptionElement : HTMLInputElement {\n open var align:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableColElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableColElement) to Kotlin\n
*/\npublic external abstract class HTMLTableColElement : HTMLInputElement {\n open var span: Int\n open var
align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n open var width:
String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n
val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableSectionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableSectionElement) to
Kotlin\n */\npublic external abstract class HTMLTableSectionElement : HTMLInputElement {\n open val rows:
HTMLCollection\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign:
String\n fun insertRow(index: Int = definedExternally): HTMLInputElement\n fun deleteRow(index: Int)\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n

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DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin\n
*\n\npublic external abstract class HTMLTableRowElement : HTMLElement {\n  open val rowIndex: Int\n  open
val sectionRowIndex: Int\n  open val cells: HTMLCollection\n  open var align: String\n  open var ch: String\n
open var chOff: String\n  open var vAlign: String\n  open var bgColor: String\n  fun insertCell(index: Int =
definedExternally): HTMLElement\n  fun deleteCell(index: Int)\n\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin\n
*\n\npublic external abstract class HTMLTableCellElement : HTMLElement {\n  open var colSpan: Int\n  open var
rowSpan: Int\n  open var headers: String\n  open val cellIndex: Int\n  open var scope: String\n  open var abbr:
String\n  open var align: String\n  open var axis: String\n  open var height: String\n  open var width: String\n
open var ch: String\n  open var chOff: String\n  open var noWrap: Boolean\n  open var vAlign: String\n  open
var bgColor: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n}\n\n/**\n * Exposes the JavaScript
[HTMLFormElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFormElement) to Kotlin\n
*\n\npublic external abstract class HTMLFormElement : HTMLElement {\n  open var acceptCharset: String\n  open var
action: String\n  open var autocomplete: String\n  open var enctype: String\n  open var encoding: String\n  open
var method: String\n  open var name: String\n  open var noValidate: Boolean\n  open var target: String\n  open
val elements: HTMLFormControlsCollection\n  open val length: Int\n  fun submit()\n  fun reset()\n  fun
checkValidity(): Boolean\n  fun reportValidity(): Boolean\n\n  companion object {\n    val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE:
Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
HTMLFormElement.get(index: Int): Element? =

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asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
HTMLFormElement.get(name: String): UnionElementOrRadioNodeList? = asDynamic()[name]\n\n/**\n * Exposes
the JavaScript [HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to
Kotlin\n */\n\npublic external abstract class HTMLLabelElement : HTMLFormElement {\n    open val form:
HTMLFormElement?\n    open var htmlFor: String\n    open val control: HTMLFormElement?\n\n    companion object
{\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n */\n\npublic
external abstract class HTMLInputElement : HTMLFormElement {\n    open var accept: String\n    open var alt: String\n
open var autocomplete: String\n    open var autofocus: Boolean\n    open var defaultChecked: Boolean\n    open var
checked: Boolean\n    open var dirName: String\n    open var disabled: Boolean\n    open val form:
HTMLFormElement?\n    open val files: FileList?\n    open var formAction: String\n    open var formEnctype:
String\n    open var formMethod: String\n    open var formNoValidate: Boolean\n    open var formTarget: String\n
open var height: Int\n    open var indeterminate: Boolean\n    open var inputMode: String\n    open val list:
HTMLFormElement?\n    open var max: String\n    open var maxLength: Int\n    open var min: String\n    open var
minLength: Int\n    open var multiple: Boolean\n    open var name: String\n    open var pattern: String\n    open var
placeholder: String\n    open var readOnly: Boolean\n    open var required: Boolean\n    open var size: Int\n    open
var src: String\n    open var step: String\n    open var type: String\n    open var defaultValue: String\n    open var
value: String\n    open var valueAsDate: dynamic\n    open var valueAsNumber: Double\n    open var width: Int\n
open val willValidate: Boolean\n    open val validity: ValidityState\n    open val validationMessage: String\n    open
val labels: NodeList\n    open var selectionStart: Int?\n    open var selectionEnd: Int?\n    open var
selectionDirection: String?\n    open var align: String\n    open var useMap: String\n    fun stepUp(n: Int =
definedExternally)\n    fun stepDown(n: Int = definedExternally)\n    fun checkValidity(): Boolean\n    fun
reportValidity(): Boolean\n    fun setCustomValidity(error: String)\n    fun select()\n    fun
setRangeText(replacement: String)\n    fun setRangeText(replacement: String, start: Int, end: Int, selectionMode:
SelectionMode = definedExternally)\n    fun setSelectionRange(start: Int, end: Int, direction: String =
definedExternally)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to Kotlin\n */\n\npublic
external abstract class HTMLButtonElement : HTMLFormElement {\n    open var autofocus: Boolean\n    open var
disabled: Boolean\n    open val form: HTMLFormElement?\n    open var formAction: String\n    open var
formEnctype: String\n    open var formMethod: String\n    open var formNoValidate: Boolean\n    open var

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formTarget: String\n open var name: String\n open var type: String\n open var value: String\n open var
menu: HTMLMenuElement?\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity():
Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement) to Kotlin\n */\npublic
external abstract class HTMLSelectElement : HTMLInputElement, ItemArrayLike<Element> {\n open var
autocomplete: String\n open var autofocus: Boolean\n open var disabled: Boolean\n open val form:
HTMLFormElement?\n open var multiple: Boolean\n open var name: String\n open var required: Boolean\n
open var size: Int\n open val type: String\n open val options: HTMLOptionsCollection\n override var length:
Int\n open val selectedOptions: HTMLCollection\n open var selectedIndex: Int\n open var value: String\n
open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open
val labels: NodeList\n fun namedItem(name: String): HTMLOptionElement?\n fun add(element:
UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n fun
remove(index: Int)\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun
setCustomValidity(error: String)\n override fun item(index: Int): Element?\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLSelectElement.get(index: Int): Element? =
asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun
HTMLSelectElement.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n *
Exposes the JavaScript
[HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin\n
*/\npublic external abstract class HTMLDataListElement : HTMLInputElement {\n open val options:
HTMLCollection\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE:
Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val

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DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin \n
*\n public external abstract class HTMLOptGroupElement : HTMLInputElement,
UnionHTMLOptGroupElementOrHTMLOptionElement { \n    open var disabled: Boolean \n    open var label:
String \n \n    companion object { \n        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n
val TEXT_NODE: Short \n        val CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE:
Short \n        val ENTITY_NODE: Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val
COMMENT_NODE: Short \n        val DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n
        val DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin \n
*\n public external abstract class HTMLOptionElement : HTMLInputElement,
UnionHTMLOptGroupElementOrHTMLOptionElement { \n    open var disabled: Boolean \n    open var form:
HTMLFormElement? \n    open var label: String \n    open var defaultSelected: Boolean \n    open var selected:
Boolean \n    open var value: String \n    open var text: String \n    open val index: Int \n \n    companion object { \n
val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE: Short \n        val TEXT_NODE: Short \n        val
CDATA_SECTION_NODE: Short \n        val ENTITY_REFERENCE_NODE: Short \n        val ENTITY_NODE:
Short \n        val PROCESSING_INSTRUCTION_NODE: Short \n        val COMMENT_NODE: Short \n        val
DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n        val
DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val
DOCUMENT_POSITION_DISCONNECTED: Short \n        val DOCUMENT_POSITION_PRECEDING: Short \n
        val DOCUMENT_POSITION_FOLLOWING: Short \n        val DOCUMENT_POSITION_CONTAINS: Short \n
        val DOCUMENT_POSITION_CONTAINED_BY: Short \n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short \n    } \n} \n \n /** \n * Exposes the JavaScript
[HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin \n
*\n public external abstract class HTMLTextAreaElement : HTMLInputElement { \n    open var autocomplete: String \n
open var autofocus: Boolean \n    open var cols: Int \n    open var dirName: String \n    open var disabled: Boolean \n
open val form: HTMLFormElement? \n    open var inputMode: String \n    open var maxLength: Int \n    open var
minLength: Int \n    open var name: String \n    open var placeholder: String \n    open var readOnly: Boolean \n    open
var required: Boolean \n    open var rows: Int \n    open var wrap: String \n    open val type: String \n    open var
defaultValue: String \n    open var value: String \n    open val textLength: Int \n    open val willValidate: Boolean \n
open val validity: ValidityState \n    open val validationMessage: String \n    open val labels: NodeList \n    open var
selectionStart: Int? \n    open var selectionEnd: Int? \n    open var selectionDirection: String? \n    fun checkValidity():
Boolean \n    fun reportValidity(): Boolean \n    fun setCustomValidity(error: String) \n    fun select() \n    fun
setRangeText(replacement: String) \n    fun setRangeText(replacement: String, start: Int, end: Int, selectionMode:
SelectionMode = definedExternally) \n    fun setSelectionRange(start: Int, end: Int, direction: String =
definedExternally) \n \n    companion object { \n        val ELEMENT_NODE: Short \n        val ATTRIBUTE_NODE:
Short \n        val TEXT_NODE: Short \n        val CDATA_SECTION_NODE: Short \n        val
ENTITY_REFERENCE_NODE: Short \n        val ENTITY_NODE: Short \n        val
PROCESSING_INSTRUCTION_NODE: Short \n        val COMMENT_NODE: Short \n        val
DOCUMENT_NODE: Short \n        val DOCUMENT_TYPE_NODE: Short \n        val
DOCUMENT_FRAGMENT_NODE: Short \n        val NOTATION_NODE: Short \n        val

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DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin\n \*\npublic external abstract class HTMLKeygenElement : HTMLInputElement {\n open var autofocus: Boolean\n open var challenge: String\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open var keytype: String\n open var name: String\n open val type: String\n open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to Kotlin\n \*\npublic external abstract class HTMLOutputElement : HTMLInputElement {\n open val htmlFor: DOMTokenList\n open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open var defaultValue: String\n open var value: String\n open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to Kotlin\n \*\npublic external abstract class HTMLProgressElement : HTMLInputElement {\n open var value: Double\n open var max: Double\n open val position: Double\n open val labels: NodeList\n\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin\n \*\npublic external abstract class HTMLMeterElement : HTMLInputElement {\n open var value: Double\n open var min:



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Double\n open var max: Double\n open var low: Double\n open var high: Double\n open var optimum:
Double\n open val labels: NodeList\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin\n
*\npublic external abstract class HTMLFieldSetElement : HTMLInputElement {\n open var disabled: Boolean\n
open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open val elements:
HTMLCollection\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun
setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin\n
*\npublic external abstract class HTMLLegendElement : HTMLInputElement {\n open val form:
HTMLFormElement?\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n
val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n
val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin\n
*\npublic external
abstract class ValidityState {\n open val valueMissing: Boolean\n open val typeMismatch: Boolean\n open val
patternMismatch: Boolean\n open val tooLong: Boolean\n open val tooShort: Boolean\n open val
rangeUnderflow: Boolean\n open val rangeOverflow: Boolean\n open val stepMismatch: Boolean\n open val
badInput: Boolean\n open val customError: Boolean\n open val valid: Boolean\n}\n}\n\n/**\n * Exposes the
JavaScript [HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to
Kotlin\n
*\npublic external abstract class HTMLDetailsElement : HTMLInputElement {\n open var open: Boolean\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val

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COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
HTMLMenuElement : HTMLInputElement {\n    open var type: String\n    open var label: String\n    open var compact:
Boolean\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
HTMLMenuItemElement : HTMLInputElement {\n    open var type: String\n    open var label: String\n    open var icon:
String\n    open var disabled: Boolean\n    open var checked: Boolean\n    open var radiogroup: String\n    open var
default: Boolean\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external open class
RelatedEvent(type: String, eventInitDict: RelatedEventInit = definedExternally) : Event {\n    open val
relatedTarget: EventTarget?\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE:
Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface
RelatedEventInit : EventInit {\n    var relatedTarget: EventTarget? /* = null */\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\n\npublic inline fun RelatedEventInit(relatedTarget:
EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
RelatedEventInit {\n    val o = js("{}")\n    o["relatedTarget"] = relatedTarget\n    o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n    o["composed"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n
*\n\npublic external abstract class HTMLDialogElement : HTMLInputElement {\n    open var open: Boolean\n    open var
returnValue: String\n    fun show(anchor: UnionElementOrMouseEvent = definedExternally)\n    fun
showModal(anchor: UnionElementOrMouseEvent = definedExternally)\n    fun close(returnValue: String =
definedExternally)\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n

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    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n */\npublic
external abstract class HTMLScriptElement : HTMLInputElement, HTMLOrSVGScriptElement {\n    open var src:
String\n    open var type: String\n    open var charset: String\n    open var async: Boolean\n    open var defer:
Boolean\n    open var crossOrigin: String?\n    open var text: String\n    open var nonce: String\n    open var event:
String\n    open var htmlFor: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement) to Kotlin\n
*/\npublic external abstract class HTMLTemplateElement : HTMLInputElement {\n    open val content:
DocumentFragment\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE:
Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n */\npublic
external abstract class HTMLSlotElement : HTMLInputElement {\n    open var name: String\n    fun
assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n\n    companion object {\n
        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface
AssignedNodesOptions {\n    var flatten: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun AssignedNodesOptions(flatten:
Boolean? = false): AssignedNodesOptions {\n    val o = js(\"({})\")\n    o[\"flatten\"] = flatten\n    return
o\n}\n\n/**\n * Exposes the JavaScript
[HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement) to Kotlin\n
*/\npublic external abstract class HTMLCanvasElement : HTMLInputElement, CanvasImageSource, TexImageSource

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{\n  open var width: Int\n  open var height: Int\n  fun getContext(contextId: String, vararg arguments: Any?):
RenderingContext?\n  fun toDataURL(type: String = definedExternally, quality: Any? = definedExternally):
String\n  fun toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality: Any? =
definedExternally)\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
CanvasRenderingContext2DSettings {\n  var alpha: Boolean? /* = true */\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n  val o =
js("{}")\n  o["alpha"] = alpha\n  return o\n}\n\n/**\n * Exposes the JavaScript
[CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D) to
Kotlin\n */\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform,
CanvasCompositing, CanvasImageSmoothing, CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters,
CanvasRect, CanvasDrawPath, CanvasUserInterface, CanvasText, CanvasDrawImage, CanvasHitRegion,
CanvasImageData, CanvasPathDrawingStyles, CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n
open val canvas: HTMLCanvasElement\n}\n\npublic external interface CanvasState {\n  fun save()\n  fun
restore()\n}\n\npublic external interface CanvasTransform {\n  fun scale(x: Double, y: Double)\n  fun
rotate(angle: Double)\n  fun translate(x: Double, y: Double)\n  fun transform(a: Double, b: Double, c: Double, d:
Double, e: Double, f: Double)\n  fun getTransform(): DOMMatrix\n  fun setTransform(a: Double, b: Double, c:
Double, d: Double, e: Double, f: Double)\n  fun setTransform(transform: dynamic = definedExternally)\n  fun
resetTransform()\n}\n\npublic external interface CanvasCompositing {\n  var globalAlpha: Double\n  var
globalCompositeOperation: String\n}\n\npublic external interface CanvasImageSmoothing {\n  var
imageSmoothingEnabled: Boolean\n  var imageSmoothingQuality: ImageSmoothingQuality\n}\n\npublic external
interface CanvasFillStrokeStyles {\n  var strokeStyle: dynamic\n  get() = definedExternally\n  set(value) =
definedExternally\n  var fillStyle: dynamic\n  get() = definedExternally\n  set(value) = definedExternally\n
fun createLinearGradient(x0: Double, y0: Double, x1: Double, y1: Double): CanvasGradient\n  fun
createRadialGradient(x0: Double, y0: Double, r0: Double, x1: Double, y1: Double, r1: Double): CanvasGradient\n
fun createPattern(image: CanvasImageSource, repetition: String): CanvasPattern?\n}\n\npublic external interface
CanvasShadowStyles {\n  var shadowOffsetX: Double\n  var shadowOffsetY: Double\n  var shadowBlur:
Double\n  var shadowColor: String\n}\n\npublic external interface CanvasFilters {\n  var filter:
String\n}\n\npublic external interface CanvasRect {\n  fun clearRect(x: Double, y: Double, w: Double, h:
Double)\n  fun fillRect(x: Double, y: Double, w: Double, h: Double)\n  fun strokeRect(x: Double, y: Double, w:
Double, h: Double)\n}\n\npublic external interface CanvasDrawPath {\n  fun beginPath()\n  fun fill(fillRule:
CanvasFillRule = definedExternally)\n  fun fill(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n
fun stroke()\n  fun stroke(path: Path2D)\n  fun clip(fillRule: CanvasFillRule = definedExternally)\n  fun
clip(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n  fun resetClip()\n  fun isPointInPath(x:
Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n  fun isPointInPath(path: Path2D, x:
Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n  fun isPointInStroke(x: Double, y:
Double): Boolean\n  fun isPointInStroke(path: Path2D, x: Double, y: Double): Boolean\n}\n\npublic external
interface CanvasUserInterface {\n  fun drawFocusIfNeeded(element: Element)\n  fun drawFocusIfNeeded(path:

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Path2D, element: Element)\n fun scrollPathIntoView()\n fun scrollPathIntoView(path: Path2D)\n\n\npublic
external interface CanvasText {\n fun fillText(text: String, x: Double, y: Double, maxWidth: Double =
definedExternally)\n fun strokeText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally)\n
fun measureText(text: String): TextMetrics\n}\n\n\npublic external interface CanvasDrawImage {\n fun
drawImage(image: CanvasImageSource, dx: Double, dy: Double)\n fun drawImage(image: CanvasImageSource,
dx: Double, dy: Double, dw: Double, dh: Double)\n fun drawImage(image: CanvasImageSource, sx: Double, sy:
Double, sw: Double, sh: Double, dx: Double, dy: Double, dw: Double, dh: Double)\n}\n\n\npublic external interface
CanvasHitRegion {\n fun addHitRegion(options: HitRegionOptions = definedExternally)\n fun
removeHitRegion(id: String)\n fun clearHitRegions()\n}\n\n\npublic external interface CanvasImageData {\n fun
createImageData(sw: Double, sh: Double): ImageData\n fun createImageData(imagedata: ImageData):
ImageData\n fun getImageData(sx: Double, sy: Double, sw: Double, sh: Double): ImageData\n fun
putImageData(imagedata: ImageData, dx: Double, dy: Double)\n fun putImageData(imagedata: ImageData, dx:
Double, dy: Double, dirtyX: Double, dirtyY: Double, dirtyWidth: Double, dirtyHeight: Double)\n}\n\n\npublic
external interface CanvasPathDrawingStyles {\n var lineWidth: Double\n var lineCap: CanvasLineCap\n var
lineJoin: CanvasLineJoin\n var miterLimit: Double\n var lineDashOffset: Double\n fun setLineDash(segments:
Array<Double>)\n fun getLineDash(): Array<Double>\n}\n\n\npublic external interface CanvasTextDrawingStyles
{\n var font: String\n var textAlign: CanvasTextAlign\n var textBaseline: CanvasTextBaseline\n var
direction: CanvasDirection\n}\n\n\npublic external interface CanvasPath {\n fun closePath()\n fun moveTo(x:
Double, y: Double)\n fun lineTo(x: Double, y: Double)\n fun quadraticCurveTo(cpx: Double, cpy: Double, x:
Double, y: Double)\n fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y:
Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n fun arcTo(x1: Double,
y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n fun rect(x: Double, y:
Double, w: Double, h: Double)\n fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle:
Double, anticlockwise: Boolean = definedExternally)\n fun ellipse(x: Double, y: Double, radiusX: Double,
radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean =
definedExternally)\n}\n\n\n/**\n * Exposes the JavaScript
[CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient) to Kotlin\n */\n\n\npublic external
abstract class CanvasGradient {\n fun addColorStop(offset: Double, color: String)\n}\n\n\n\n/**\n * Exposes the
JavaScript [CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to Kotlin\n */\n\n\npublic
external abstract class CanvasPattern {\n fun setTransform(transform: dynamic = definedExternally)\n}\n\n\n\n/**\n *
Exposes the JavaScript [TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n */\n\n\npublic
external abstract class TextMetrics {\n open val width: Double\n open val actualBoundingBoxLeft:
Double\n open val actualBoundingBoxRight: Double\n open val fontBoundingBoxAscent: Double\n open val
fontBoundingBoxDescent: Double\n open val actualBoundingBoxAscent: Double\n open val
actualBoundingBoxDescent: Double\n open val emHeightAscent: Double\n open val emHeightDescent:
Double\n open val hangingBaseline: Double\n open val alphabeticBaseline: Double\n open val
ideographicBaseline: Double\n}\n\n\n\npublic external interface HitRegionOptions {\n var path: Path2D? /* = null
*/\n fun get() = definedExternally\n fun set(value) = definedExternally\n var fillRule: CanvasFillRule? /* =
CanvasFillRule.NONZERO */\n fun get() = definedExternally\n fun set(value) = definedExternally\n var id:
String? /* = \"\" */\n fun get() = definedExternally\n fun set(value) = definedExternally\n var parentID: String? /* =
null */\n fun get() = definedExternally\n fun set(value) = definedExternally\n var cursor: String? /* = \"inherit\"
*/\n fun get() = definedExternally\n fun set(value) = definedExternally\n var control: Element? /* = null */\n
fun get() = definedExternally\n fun set(value) = definedExternally\n var label: String? /* = null */\n fun get() =
definedExternally\n fun set(value) = definedExternally\n var role: String? /* = null */\n fun get() =
definedExternally\n fun set(value) = definedExternally\n}\n\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n\n@kotlin.internal.InlineOnly\n\n\npublic inline fun HitRegionOptions(path: Path2D? =
null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\", parentID: String? = null, cursor:
String? = \"inherit\", control: Element? = null, label: String? = null, role: String? = null): HitRegionOptions {\n val

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o = js("{}")\n o["path"] = path\n o["fillRule"] = fillRule\n o["id"] = id\n o["parentID"] = parentID\n
o["cursor"] = cursor\n o["control"] = control\n o["label"] = label\n o["role"] = role\n return
o}\n\n/**\n * Exposes the JavaScript [ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to
Kotlin\n */\npublic external open class ImageData : ImageBitmapSource, TexImageSource {\n constructor(sw:
Int, sh: Int)\n constructor(data: Uint8ClampedArray, sw: Int, sh: Int = definedExternally)\n open val width: Int\n
open val height: Int\n open val data: Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript
[Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D) to Kotlin\n */\npublic external open class
Path2D() : CanvasPath {\n constructor(path: Path2D)\n constructor(paths: Array<Path2D>, fillRule:
CanvasFillRule = definedExternally)\n constructor(d: String)\n fun addPath(path: Path2D, transform: dynamic =
definedExternally)\n override fun closePath()\n override fun moveTo(x: Double, y: Double)\n override fun
lineTo(x: Double, y: Double)\n override fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n
override fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n
override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n override fun arcTo(x1:
Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n override fun
rect(x: Double, y: Double, w: Double, h: Double)\n override fun arc(x: Double, y: Double, radius: Double,
startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */)\n override fun ellipse(x:
Double, y: Double, radiusX: Double, radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double,
anticlockwise: Boolean /* = definedExternally */)\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext)
to Kotlin\n */\npublic external abstract class ImageBitmapRenderingContext {\n open val canvas:
HTMLCanvasElement\n fun transferFromImageBitmap(bitmap: ImageBitmap?)\n}\n\npublic external interface
ImageBitmapRenderingContextSettings {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n val o
= js("{}")\n o["alpha"] = alpha\n return o}\n\n/**\n * Exposes the JavaScript
[CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n
*/\npublic external abstract class CustomElementRegistry {\n fun define(name: String, constructor: () -> dynamic,
options: ElementDefinitionOptions = definedExternally)\n fun get(name: String): Any?\n fun
whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n var
extends: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends:
String? = undefined): ElementDefinitionOptions {\n val o = js("{}")\n o["extends"] = extends\n return
o}\n\npublic external interface ElementContentEditable {\n var contentEditable: String\n val
isContentEditable: Boolean\n}\n\n/**\n * Exposes the JavaScript
[DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer) to Kotlin\n */\npublic external
abstract class DataTransfer {\n open var dropEffect: String\n open var effectAllowed: String\n open val items:
DataTransferItemList\n open val types: Array<out String>\n open val files: FileList\n fun
setDragImage(image: Element, x: Int, y: Int)\n fun getData(format: String): String\n fun setData(format: String,
data: String)\n fun clearData(format: String = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to Kotlin\n */\npublic
external abstract class DataTransferItemList {\n open val length: Int\n fun add(data: String, type: String):
DataTransferItem?\n fun add(data: File): DataTransferItem?\n fun remove(index: Int)\n fun
clear()\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
DataTransferItemList.get(index: Int): DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n */\npublic

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external abstract class DataTransferItem {\n  open val kind: String\n  open val type: String\n  fun
getAsString(_callback: ((String) -> Unit)?)\n  fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript
[DragEvent](https://developer.mozilla.org/en/docs/Web/API/DragEvent) to Kotlin\n */\npublic external open class
DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n  open val
dataTransfer: DataTransfer?\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE:
Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
DragEventInit : MouseEventInit {\n  var dataTransfer: DataTransfer? /* = null */\n  get() = definedExternally\n
  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer:
DataTransfer? = null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0,
buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey:
Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false,
modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false,
modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): DragEventInit {\n  val o = js("{}")\n  o["dataTransfer"] = dataTransfer\n  o["screenX"] = screenX\n
  o["screenY"] = screenY\n  o["clientX"] = clientX\n  o["clientY"] = clientY\n  o["button"] = button\n
  o["buttons"] = buttons\n  o["relatedTarget"] = relatedTarget\n  o["region"] = region\n  o["ctrlKey"] =
ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] = altKey\n  o["metaKey"] = metaKey\n
  o["modifierAltGraph"] = modifierAltGraph\n  o["modifierCapsLock"] = modifierCapsLock\n
  o["modifierFn"] = modifierFn\n  o["modifierFnLock"] = modifierFnLock\n  o["modifierHyper"] =
modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n  o["modifierScrollLock"] =
modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n  o["modifierSymbol"] = modifierSymbol\n
  o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] = view\n  o["detail"] = detail\n
  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return
o\n}\n\n/**\n * Exposes the JavaScript [Window](https://developer.mozilla.org/en/docs/Web/API/Window) to
Kotlin\n */\npublic external abstract class Window : EventTarget, GlobalEventHandlers, WindowEventHandlers,
WindowOrWorkerGlobalScope, WindowSessionStorage, WindowLocalStorage, GlobalPerformance,
UnionMessagePortOrWindowProxy {\n  open val window: Window\n  open val self: Window\n  open val
document: Document\n  open var name: String\n  open val location: Location\n  open val history: History\n
  open val customElements: CustomElementRegistry\n  open val locationbar: BarProp\n  open val menubar:
BarProp\n  open val personalbar: BarProp\n  open val scrollbars: BarProp\n  open val statusbar: BarProp\n
  open val toolbar: BarProp\n  open var status: String\n  open val closed: Boolean\n  open val frames: Window\n
  open val length: Int\n  open val top: Window\n  open var opener: Any?\n  open val parent: Window\n  open val
frameElement: Element?\n  open val navigator: Navigator\n  open val applicationCache: ApplicationCache\n
  open val external: External\n  open val screen: Screen\n  open val innerWidth: Int\n  open val innerHeight: Int\n
  open val scrollX: Double\n  open val pageXOffset: Double\n  open val scrollY: Double\n  open val
pageYOffset: Double\n  open val screenX: Int\n  open val screenY: Int\n  open val outerWidth: Int\n  open val
outerHeight: Int\n  open val devicePixelRatio: Double\n  fun close()\n  fun stop()\n  fun focus()\n  fun blur()\n
  fun open(url: String = definedExternally, target: String = definedExternally, features: String = definedExternally):
Window?\n  fun alert()\n  fun alert(message: String)\n  fun confirm(message: String = definedExternally):
Boolean\n  fun prompt(message: String = definedExternally, default: String = definedExternally): String?\n  fun
print()\n  fun requestAnimationFrame(callback: (Double) -> Unit): Int\n  fun cancelAnimationFrame(handle:
Int)\n  fun postMessage(message: Any?, targetOrigin: String, transfer: Array<dynamic> = definedExternally)\n
  fun captureEvents()\n  fun releaseEvents()\n  fun matchMedia(query: String): MediaQueryList\n  fun moveTo(x:
Int, y: Int)\n  fun moveBy(x: Int, y: Int)\n  fun resizeTo(x: Int, y: Int)\n  fun resizeBy(x: Int, y: Int)\n  fun
scroll(options: ScrollToOptions = definedExternally)\n  fun scroll(x: Double, y: Double)\n  fun scrollTo(options:

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ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n fun scrollBy(options:
ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun getComputedStyle(elt:
Element, pseudoElt: String? = definedExternally):
CSSStyleDeclaration)\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Window.get(name: String):
dynamic = asDynamic()[name]\n\npublic external abstract class BarProp {\n open val visible: Boolean}\n}\n\n/**\n * Exposes the JavaScript [History](https://developer.mozilla.org/en/docs/Web/API/History) to Kotlin\n *\npublic
external abstract class History {\n open val length: Int\n open var scrollRestoration: ScrollRestoration\n open
val state: Any?\n fun go(delta: Int = definedExternally)\n fun back()\n fun forward()\n fun pushState(data:
Any?, title: String, url: String? = definedExternally)\n fun replaceState(data: Any?, title: String, url: String? =
definedExternally)\n}\n}\n\n/**\n * Exposes the JavaScript
[Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin\n *\npublic external abstract class
Location {\n open var href: String\n open val origin: String\n open var protocol: String\n open var host:
String\n open var hostname: String\n open var port: String\n open var pathname: String\n open var search:
String\n open var hash: String\n open val ancestorOrigins: Array<out String>\n fun assign(url: String)\n fun
replace(url: String)\n fun reload()\n}\n}\n\n/**\n * Exposes the JavaScript
[PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n *\npublic external
open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {\n open val
state: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val
AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PopStateEventInit
: EventInit {\n var state: Any? /* = null */\n get() = definedExternally\n set(value) =
definedExternally\n}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PopStateEventInit(state: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit {\n val o
= js(\"({})\")\n o[\"state\"] = state\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n
o[\"composed\"] = composed\n return o\n}\n}\n\n/**\n * Exposes the JavaScript
[HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin\n *\npublic
external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) :
Event {\n open val oldURL: String\n open val newURL: String\n\n companion object {\n val NONE:
Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:
Short\n }\n}\n\npublic external interface HashChangeEventInit : EventInit {\n var oldURL: String? /* = \"\" */\n
get() = definedExternally\n set(value) = definedExternally\n var newURL: String? /* = \"\" */\n get() =
definedExternally\n set(value) = definedExternally\n}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun HashChangeEventInit(oldURL:
String? = \"\", newURL: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): HashChangeEventInit {\n val o = js(\"({})\")\n o[\"oldURL\"] = oldURL\n o[\"newURL\"]
= newURL\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n
return o\n}\n}\n\n/**\n * Exposes the JavaScript
[PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin\n *\npublic
external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) :
Event {\n open val persisted: Boolean\n\n companion object {\n val NONE: Short\n val
CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface PageTransitionEventInit : EventInit {\n var persisted: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PageTransitionEventInit(persisted:
Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
PageTransitionEventInit {\n val o = js(\"({})\")\n o[\"persisted\"] = persisted\n o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n}\n\n/**\n * Exposes the JavaScript

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[BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin\n \*^/npublic external open class BeforeUnloadEvent : Event {\n var returnValue: String\n companion object {\n val NONE: Short\n val CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n }\n}\n\npublic external abstract class ApplicationCache : EventTarget {\n open val status: Short\n open var onchecking: ((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n open var onnoupdate: ((Event) -> dynamic)?\n open var ondownloading: ((Event) -> dynamic)?\n open var onprogress: ((ProgressEvent) -> dynamic)?\n open var onupdateready: ((Event) -> dynamic)?\n open var oncached: ((Event) -> dynamic)?\n open var onobsolete: ((Event) -> dynamic)?\n fun update()\n fun abort()\n fun swapCache()\n companion object {\n val UNCACHED: Short\n val IDLE: Short\n val CHECKING: Short\n val DOWNLOADING: Short\n val UPDATEREADY: Short\n val OBSOLETE: Short\n }\n}\n\n\*\*\n \* Exposes the JavaScript

[NavigatorOnLine](https://developer.mozilla.org/en/docs/Web/API/NavigatorOnLine) to Kotlin\n \*^/npublic external interface NavigatorOnLine {\n val onLine: Boolean\n}\n\n\*\*\n \* Exposes the JavaScript

[ErrorEvent](https://developer.mozilla.org/en/docs/Web/API/ErrorEvent) to Kotlin\n \*^/npublic external open class ErrorEvent(type: String, eventInitDict: ErrorEventInit = definedExternally) : Event {\n open val message: String\n open val filename: String\n open val lineno: Int\n open val colno: Int\n open val error: Any?\n companion object {\n val NONE: Short\n val CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n }\n}\n\npublic external interface ErrorEventInit : EventInit {\n var message: String? /\* = \"\" \*/\n get() = definedExternally\n set(value) = definedExternally\n var filename: String? /\* = \"\" \*/\n get() = definedExternally\n set(value) = definedExternally\n var lineno: Int? /\* = 0 \*/\n get() = definedExternally\n set(value) = definedExternally\n var colno: Int? /\* = 0 \*/\n get() = definedExternally\n set(value) = definedExternally\n var error: Any? /\* = null \*/\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ErrorEventInit(message: String? = \"\", filename: String? = \"\", lineno: Int? = 0, colno: Int? = 0, error: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ErrorEventInit {\n val o = js(\"({})\")\n o[\"message\"] = message\n o[\"filename\"] = filename\n o[\"lineno\"] = lineno\n o[\"colno\"] = colno\n o[\"error\"] = error\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n\*\*\n \* Exposes the JavaScript

[PromiseRejectionEvent](https://developer.mozilla.org/en/docs/Web/API/PromiseRejectionEvent) to Kotlin\n \*^/npublic external open class PromiseRejectionEvent(type: String, eventInitDict: PromiseRejectionEventInit) : Event {\n open val promise: Promise<Any?>\n open val reason: Any?\n companion object {\n val NONE: Short\n val CAPTURING\_PHASE: Short\n val AT\_TARGET: Short\n val BUBBLING\_PHASE: Short\n }\n}\n\npublic external interface PromiseRejectionEventInit : EventInit {\n var promise: Promise<Any?>?\n var reason: Any?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PromiseRejectionEventInit(promise: Promise<Any?>?, reason: Any? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PromiseRejectionEventInit {\n val o = js(\"({})\")\n o[\"promise\"] = promise\n o[\"reason\"] = reason\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n\*\*\n \* Exposes the JavaScript

[GlobalEventHandlers](https://developer.mozilla.org/en/docs/Web/API/GlobalEventHandlers) to Kotlin\n \*^/npublic external interface GlobalEventHandlers {\n var onabort: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onblur: ((FocusEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncancel: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncanplay: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncanplaythrough: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onchange: ((Event) -> dynamic)?\n get() =

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definedExternally\n      set(value) = definedExternally\n      var onclick: ((MouseEvent) -> dynamic)?\n      get() =
definedExternally\n      set(value) = definedExternally\n      var onclose: ((Event) -> dynamic)?\n      get() =
definedExternally\n      set(value) = definedExternally\n      var oncontextmenu: ((MouseEvent) -> dynamic)?\n
get() = definedExternally\n      set(value) = definedExternally\n      var oncuechange: ((Event) -> dynamic)?\n
get() = definedExternally\n      set(value) = definedExternally\n      var ondblclick: ((MouseEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var ondrag: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n      set(value) = definedExternally\n      var ondragend: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n      set(value) = definedExternally\n      var ondragenter: ((DragEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var ondragexit: ((DragEvent) -> dynamic)?\n
get() = definedExternally\n      set(value) = definedExternally\n      var ondragleave: ((DragEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var ondragover: ((DragEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var ondragstart: ((DragEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var ondrop: ((DragEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var ondurationchange: ((Event) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var onemptied: ((Event) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var onended: ((Event) -> dynamic)?\n      get() =
definedExternally\n      set(value) = definedExternally\n      var onerror: ((dynamic, String, Int, Int, Any?) ->
dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var onfocus: ((FocusEvent) ->
dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var oninput: ((InputEvent) ->
dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var oninvalid: ((Event) ->
dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var onkeydown:
((KeyboardEvent) -> dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var
onkeypress: ((KeyboardEvent) -> dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n
      var onkeyup: ((KeyboardEvent) -> dynamic)?\n      get() = definedExternally\n      set(value) =
definedExternally\n      var onload: ((Event) -> dynamic)?\n      get() = definedExternally\n      set(value) =
definedExternally\n      var onloadeddata: ((Event) -> dynamic)?\n      get() = definedExternally\n      set(value) =
definedExternally\n      var onloadedmetadata: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onloadend: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onloadstart: ((ProgressEvent) -> dynamic)?\n      get() = definedExternally\n
      set(value) = definedExternally\n      var onmousedown: ((MouseEvent) -> dynamic)?\n      get() =
definedExternally\n      set(value) = definedExternally\n      var onmouseenter: ((MouseEvent) -> dynamic)?\n
      get() = definedExternally\n      set(value) = definedExternally\n      var onmouseleave: ((MouseEvent) ->
dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var onmousemove:
((MouseEvent) -> dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n      var
onmouseout: ((MouseEvent) -> dynamic)?\n      get() = definedExternally\n      set(value) = definedExternally\n
      var onmouseover: ((MouseEvent) -> dynamic)?\n      get() = definedExternally\n      set(value) =
definedExternally\n      var onmouseup: ((MouseEvent) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onwheel: ((WheelEvent) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onpause: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onplay: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onplaying: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onprogress: ((ProgressEvent) -> dynamic)?\n      get() = definedExternally\n
      set(value) = definedExternally\n      var onratechange: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onreset: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onresize: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onscroll: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onseeked: ((Event) -> dynamic)?\n      get() = definedExternally\n
set(value) = definedExternally\n      var onseeking: ((Event) -> dynamic)?\n      get() = definedExternally\n

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set(value) = definedExternally\n    var onselect: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onshow: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onstalled: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onsubmit: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onsuspend: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ontimeupdate: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ontoggle: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onvolumechange: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onwaiting: ((Event) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var ongotpointercapture: ((PointerEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onlostpointercapture: ((PointerEvent) -> dynamic)?\n
    get() = definedExternally\n    set(value) = definedExternally\n    var onpointerdown: ((PointerEvent) ->
dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onpointermove:
((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onpointerup: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onpointercancel: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onpointerover: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onpointerout: ((PointerEvent) -> dynamic)?\n    get() = definedExternally\n
    set(value) = definedExternally\n    var onpointerenter: ((PointerEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onpointerleave: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n}\n\n**\n * Exposes the JavaScript
[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*\npublic external interface WindowEventHandlers {\n    var onafterprint: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onbeforeprint: ((Event) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onbeforeunload: ((BeforeUnloadEvent) ->
String)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var onhashchange:
((HashChangeEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onlanguagechange: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onmessage: ((MessageEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onoffline: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var ononline: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var onpagehide: ((PageTransitionEvent) -> dynamic)?\n    get() = definedExternally\n
set(value) = definedExternally\n    var onpageshow: ((PageTransitionEvent) -> dynamic)?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var onpopstate: ((PopStateEvent) -> dynamic)?\n
get() = definedExternally\n    set(value) = definedExternally\n    var onrejectionhandled: ((Event) -> dynamic)?\n
    get() = definedExternally\n    set(value) = definedExternally\n    var onstorage: ((StorageEvent) -> dynamic)?\n
    get() = definedExternally\n    set(value) = definedExternally\n    var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n
var onunload: ((Event) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\npublic external interface DocumentAndElementEventHandlers {\n    var oncopy:
((ClipboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var oncut:
((ClipboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) = definedExternally\n    var
onpaste: ((ClipboardEvent) -> dynamic)?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n**\n * Exposes the JavaScript
[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope)
to Kotlin\n
*\npublic external interface WindowOrWorkerGlobalScope {\n    val origin: String\n    val caches:
CacheStorage\n    fun btoa(data: String): String\n    fun atob(data: String): String\n    fun setTimeout(handler:
dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n    fun clearTimeout(handle: Int =

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definedExternally)\n fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?):
Int\n fun clearInterval(handle: Int = definedExternally)\n fun createImageBitmap(image: ImageBitmapSource,
options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n fun createImageBitmap(image:
ImageBitmapSource, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally):
Promise<ImageBitmap>\n fun fetch(input: dynamic, init: RequestInit = definedExternally):
Promise<Response>\n}\n\n/**\n * Exposes the JavaScript
[Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n *\npublic external abstract class
Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorContentUtils, NavigatorCookies,
NavigatorPlugins, NavigatorConcurrentHardware {\n open val clipboard: Clipboard\n open val mediaDevices:
MediaDevices\n open val maxTouchPoints: Int\n open val serviceWorker: ServiceWorkerContainer\n fun
requestMediaKeySystemAccess(keySystem: String, supportedConfigurations:
Array<MediaKeySystemConfiguration>): Promise<MediaKeySystemAccess>\n fun getUserMedia(constraints:
MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback: (dynamic) -> Unit)\n fun
vibrate(pattern: dynamic): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n *\npublic external interface
NavigatorID {\n val appCodeName: String\n val appName: String\n val appVersion: String\n val platform:
String\n val product: String\n val productSub: String\n val userAgent: String\n val vendor: String\n val
vendorSub: String\n val oscpu: String\n fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorLanguage](https://developer.mozilla.org/en/docs/Web/API/NavigatorLanguage) to Kotlin\n *\npublic
external interface NavigatorLanguage {\n val language: String\n val languages: Array<out String>\n}\n\npublic
external interface NavigatorContentUtils {\n fun registerProtocolHandler(scheme: String, url: String, title:
String)\n fun registerContentHandler(mimeType: String, url: String, title: String)\n fun
isProtocolHandlerRegistered(scheme: String, url: String): String\n fun isContentHandlerRegistered(mimeType:
String, url: String): String\n fun unregisterProtocolHandler(scheme: String, url: String)\n fun
unregisterContentHandler(mimeType: String, url: String)\n}\n\npublic external interface NavigatorCookies {\n val
cookieEnabled: Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorPlugins](https://developer.mozilla.org/en/docs/Web/API/NavigatorPlugins) to Kotlin\n *\npublic
external interface NavigatorPlugins {\n val plugins: PluginArray\n val mimeTypes: MimeTypeArray\n fun
javaEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[PluginArray](https://developer.mozilla.org/en/docs/Web/API/PluginArray) to Kotlin\n *\npublic external abstract
class PluginArray : ItemArrayLike<Plugin> {\n fun refresh(reload: Boolean = definedExternally)\n override fun
item(index: Int): Plugin?\n fun namedItem(name: String):
Plugin?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun PluginArray.get(index: Int):
Plugin? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun PluginArray.get(name:
String): Plugin? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MimeTypeArray](https://developer.mozilla.org/en/docs/Web/API/MimeTypeArray) to Kotlin\n *\npublic external
abstract class MimeTypeArray : ItemArrayLike<MimeType> {\n override fun item(index: Int): MimeType?\n
fun namedItem(name: String): MimeType?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(index:
Int): MimeType? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(name:
String): MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[Plugin](https://developer.mozilla.org/en/docs/Web/API/Plugin) to Kotlin\n *\npublic external abstract class Plugin
: ItemArrayLike<MimeType> {\n open val name: String\n open val description: String\n open val filename:
String\n override fun item(index: Int): MimeType?\n fun namedItem(name: String):
MimeType?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",

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\ "INVISIBLE_MEMBER" \n @kotlin.internal.InlineOnly \n public inline operator fun Plugin.get(index: Int):
MimeType? = asDynamic()[index] \n \n @Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" \n @kotlin.internal.InlineOnly \n public inline operator fun Plugin.get(name: String):
MimeType? = asDynamic()[name] \n \n /** \n * Exposes the JavaScript
[MimeType](https://developer.mozilla.org/en/docs/Web/API/MimeType) to Kotlin \n * \n public external abstract
class MimeType { \n open val type: String \n open val description: String \n open val suffixes: String \n open
val enabledPlugin: Plugin \n } \n \n /** \n * Exposes the JavaScript
[ImageBitmap](https://developer.mozilla.org/en/docs/Web/API/ImageBitmap) to Kotlin \n * \n public external
abstract class ImageBitmap : CanvasImageSource, TexImageSource { \n open val width: Int \n open val height:
Int \n fun close() \n } \n \n public external interface ImageBitmapOptions { \n var imageOrientation:
ImageOrientation? /* = ImageOrientation.NONE */ \n get() = definedExternally \n set(value) =
definedExternally \n var premultiplyAlpha: PremultiplyAlpha? /* = PremultiplyAlpha.DEFAULT */ \n get() =
definedExternally \n set(value) = definedExternally \n var colorSpaceConversion: ColorSpaceConversion? /* =
ColorSpaceConversion.DEFAULT */ \n get() = definedExternally \n set(value) = definedExternally \n var
resizeWidth: Int? \n get() = definedExternally \n set(value) = definedExternally \n var resizeHeight: Int? \n
get() = definedExternally \n set(value) = definedExternally \n var resizeQuality: ResizeQuality? /* =
ResizeQuality.LOW */ \n get() = definedExternally \n set(value) =
definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" \n @kotlin.internal.InlineOnly \n public inline fun
ImageBitmapOptions(imageOrientation: ImageOrientation? = ImageOrientation.NONE, premultiplyAlpha:
PremultiplyAlpha? = PremultiplyAlpha.DEFAULT, colorSpaceConversion: ColorSpaceConversion? =
ColorSpaceConversion.DEFAULT, resizeWidth: Int? = undefined, resizeHeight: Int? = undefined, resizeQuality:
ResizeQuality? = ResizeQuality.LOW): ImageBitmapOptions { \n val o = js("{}") \n o["imageOrientation"]
= imageOrientation \n o["premultiplyAlpha"] = premultiplyAlpha \n o["colorSpaceConversion"] =
colorSpaceConversion \n o["resizeWidth"] = resizeWidth \n o["resizeHeight"] = resizeHeight \n
o["resizeQuality"] = resizeQuality \n return o \n } \n \n /** \n * Exposes the JavaScript
[MessageEvent](https://developer.mozilla.org/en/docs/Web/API/MessageEvent) to Kotlin \n * \n public external open
class MessageEvent(type: String, eventInitDict: MessageEventInit = definedExternally) : Event { \n open val data:
Any? \n open val origin: String \n open val lastEventId: String \n open val source:
UnionMessagePortOrWindowProxy? \n open val ports: Array<out MessagePort> \n fun initMessageEvent(type:
String, bubbles: Boolean, cancelable: Boolean, data: Any?, origin: String, lastEventId: String, source:
UnionMessagePortOrWindowProxy?, ports: Array<MessagePort>) \n companion object { \n val NONE:
Short \n val CAPTURING_PHASE: Short \n val AT_TARGET: Short \n val BUBBLING_PHASE:
Short \n } \n } \n \n public external interface MessageEventInit : EventInit { \n var data: Any? /* = null */ \n get()
= definedExternally \n set(value) = definedExternally \n var origin: String? /* = "" */ \n get() =
definedExternally \n set(value) = definedExternally \n var lastEventId: String? /* = "" */ \n get() =
definedExternally \n set(value) = definedExternally \n var source: UnionMessagePortOrWindowProxy? /* =
null */ \n get() = definedExternally \n set(value) = definedExternally \n var ports: Array<MessagePort>? /*
= arrayOf() */ \n get() = definedExternally \n set(value) =
definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" \n @kotlin.internal.InlineOnly \n public inline fun MessageEventInit(data: Any? = null,
origin: String? = "", lastEventId: String? = "", source: UnionMessagePortOrWindowProxy? = null, ports:
Array<MessagePort>? = arrayOf(), bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): MessageEventInit { \n val o = js("{}") \n o["data"] = data \n o["origin"] = origin \n
o["lastEventId"] = lastEventId \n o["source"] = source \n o["ports"] = ports \n o["bubbles"] = bubbles \n
o["cancelable"] = cancelable \n o["composed"] = composed \n return o \n } \n \n /** \n * Exposes the JavaScript
[EventSource](https://developer.mozilla.org/en/docs/Web/API/EventSource) to Kotlin \n * \n public external open
class EventSource(url: String, eventSourceInitDict: EventSourceInit = definedExternally) : EventTarget { \n open

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val url: String\n  open val withCredentials: Boolean\n  open val readyState: Short\n  var onopen: ((Event) ->
dynamic)?\n  var onmessage: ((MessageEvent) -> dynamic)?\n  var onerror: ((Event) -> dynamic)?\n  fun
close()\n\n  companion object {\n    val CONNECTING: Short\n    val OPEN: Short\n    val CLOSED:
Short\n  }\n}\n\npublic external interface EventSourceInit {\n  var withCredentials: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun EventSourceInit(withCredentials:
Boolean? = false): EventSourceInit {\n  val o = js(\"({})\")\n  o[\"withCredentials\"] = withCredentials\n  return
o\n}\n\n/**\n * Exposes the JavaScript [WebSocket](https://developer.mozilla.org/en/docs/Web/API/WebSocket) to
Kotlin\n */\npublic external open class WebSocket(url: String, protocols: dynamic = definedExternally) :
EventTarget {\n  open val url: String\n  open val readyState: Short\n  open val bufferedAmount: Number\n  var
onopen: ((Event) -> dynamic)?\n  var onerror: ((Event) -> dynamic)?\n  var onclose: ((Event) -> dynamic)?\n
open val extensions: String\n  open val protocol: String\n  var onmessage: ((MessageEvent) -> dynamic)?\n  var
binaryType: BinaryType\n  fun close(code: Short = definedExternally, reason: String = definedExternally)\n  fun
send(data: String)\n  fun send(data: Blob)\n  fun send(data: ArrayBuffer)\n  fun send(data:
ArrayBufferView)\n\n  companion object {\n    val CONNECTING: Short\n    val OPEN: Short\n    val
CLOSING: Short\n    val CLOSED: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CloseEvent](https://developer.mozilla.org/en/docs/Web/API/CloseEvent) to Kotlin\n */\npublic external open class
CloseEvent(type: String, eventInitDict: CloseEventInit = definedExternally) : Event {\n  open val wasClean:
Boolean\n  open val code: Short\n  open val reason: String\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface CloseEventInit : EventInit {\n  var wasClean: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var code: Short? /* = 0 */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var reason: String? /* = \"\" */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CloseEventInit(wasClean: Boolean? =
false, code: Short? = 0, reason: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): CloseEventInit {\n  val o = js(\"({})\")\n  o[\"wasClean\"] = wasClean\n  o[\"code\"] = code\n
o[\"reason\"] = reason\n  o[\"bubbles\"] = bubbles\n  o[\"cancelable\"] = cancelable\n  o[\"composed\"] =
composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n */\npublic external
open class MessageChannel {\n  open val port1: MessagePort\n  open val port2: MessagePort\n}\n\n/**\n *
Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n
*/\npublic external abstract class MessagePort : EventTarget, UnionMessagePortOrWindowProxy,
UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n  open var onmessage:
((MessageEvent) -> dynamic)?\n  fun postMessage(message: Any?, transfer: Array<dynamic> =
definedExternally)\n  fun start()\n  fun close()\n}\n\n/**\n * Exposes the JavaScript
[BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel) to Kotlin\n */\npublic
external open class BroadcastChannel(name: String) : EventTarget {\n  open val name: String\n  var onmessage:
((MessageEvent) -> dynamic)?\n  fun postMessage(message: Any?)\n  fun close()\n}\n\n/**\n * Exposes the
JavaScript [WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n
*/\npublic external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope,
GlobalPerformance {\n  open val self: WorkerGlobalScope\n  open val location: WorkerLocation\n  open val
navigator: WorkerNavigator\n  open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n  open var
onlanguagechange: ((Event) -> dynamic)?\n  open var onoffline: ((Event) -> dynamic)?\n  open var ononline:
((Event) -> dynamic)?\n  open var onrejectionhandled: ((Event) -> dynamic)?\n  open var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n  fun importScripts(vararg urls: String)\n}\n\n/**\n * Exposes the
JavaScript
[DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to

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Kotlin\n \*\\npublic external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n fun close()\n}\n\n\*\*\n \* Exposes the JavaScript [SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to Kotlin\n \*\\npublic external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n open val name: String\n open val applicationCache: ApplicationCache\n open var onconnect: ((Event) -> dynamic)?\n fun close()\n}\n\n\*\*\n \* Exposes the JavaScript [AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker) to Kotlin\n \*\\npublic external interface AbstractWorker {\n var onerror: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n\*\*\n \* Exposes the JavaScript [Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n \*\\npublic external open class Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n var onmessage: ((MessageEvent) -> dynamic)?\n override var onerror: ((Event) -> dynamic)?\n fun terminate()\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\npublic external interface WorkerOptions {\n var type: WorkerType? /\* = WorkerType.CLASSIC \*/\n get() = definedExternally\n set(value) = definedExternally\n var credentials: RequestCredentials? /\* = RequestCredentials.OMIT \*/\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun WorkerOptions(type: WorkerType? = WorkerType.CLASSIC, credentials: RequestCredentials? = RequestCredentials.OMIT): WorkerOptions {\n val o = js(\"({})\")\n o[\"type\"] = type\n o[\"credentials\"] = credentials\n return o\n}\n\n\*\*\n \* Exposes the JavaScript [SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin\n \*\\npublic external open class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n open val port: MessagePort\n override var onerror: ((Event) -> dynamic)?\n}\n\n\*\*\n \* Exposes the JavaScript [NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to Kotlin\n \*\\npublic external interface NavigatorConcurrentHardware {\n val hardwareConcurrency: Number\n}\n\n\*\*\n \* Exposes the JavaScript [WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator) to Kotlin\n \*\\npublic external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorConcurrentHardware {\n open val serviceWorker: ServiceWorkerContainer\n}\n\n\*\*\n \* Exposes the JavaScript [WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin\n \*\\npublic external abstract class WorkerLocation {\n open val href: String\n open val origin: String\n open val protocol: String\n open val host: String\n open val hostname: String\n open val port: String\n open val pathname: String\n open val search: String\n open val hash: String\n}\n\n\*\*\n \* Exposes the JavaScript [Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin\n \*\\npublic external abstract class Storage {\n open val length: Int\n fun key(index: Int): String?\n fun removeItem(key: String)\n fun clear()\n fun getItem(key: String): String?\n fun setItem(key: String, value: String)\n}\n\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.get(key: String): String? = asDynamic()[key]\n\n@Suppress(\"INVISIBLE\_REFERENCE\", \"INVISIBLE\_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.set(key: String, value: String) { asDynamic()[key] = value }\n\n\*\*\n \* Exposes the JavaScript [WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin\n \*\\npublic external interface WindowSessionStorage {\n val sessionStorage: Storage\n}\n\n\*\*\n \* Exposes the JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to Kotlin\n \*\\npublic external interface WindowLocalStorage {\n val localStorage: Storage\n}\n\n\*\*\n \* Exposes the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin\n \*\\npublic external open class StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {\n

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open val key: String?
open val oldValue: String?
open val newValue: String?
open val url: String
open val storageArea: Storage?
companion object {
    val NONE: Short
    val CAPTURING_PHASE: Short
    val AT_TARGET: Short
    val BUBBLING_PHASE: Short
}
public external interface StorageEventInit : EventInit {
    var key: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var oldValue: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var newValue: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var url: String? /* = "" */
    get() = definedExternally
    set(value) = definedExternally
    var storageArea: Storage? /* = null */
    get() = definedExternally
    set(value) = definedExternally
}
@Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")
@kotlin.internal.InlineOnly
public inline fun StorageEventInit(key: String? = null, oldValue: String? = null, newValue: String? = null, url: String? = "", storageArea: Storage? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): StorageEventInit {
    val o = js("{}")
    o["key"] = key
    o["oldValue"] = oldValue
    o["newValue"] = newValue
    o["url"] = url
    o["storageArea"] = storageArea
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}
public external abstract class HTMLAppletElement : HTMLElement {
    open var align: String
    open var alt: String
    open var archive: String
    open var code: String
    open var codeBase: String
    open var height: String
    open var hspace: Int
    open var name: String
    open var _object: String
    open var vspace: Int
    open var width: String
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}
/** Exposes the JavaScript [HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin */
public external abstract class HTMLMarqueeElement : HTMLElement {
    open var behavior: String
    open var bgColor: String
    open var direction: String
    open var height: String
    open var hspace: Int
    open var loop: Int
    open var scrollAmount: Int
    open var scrollDelay: Int
    open var trueSpeed: Boolean
    open var vspace: Int
    open var width: String
    open var onbounce: ((Event) -> dynamic)?
    open var onfinish: ((Event) -> dynamic)?
    open var onstart: ((Event) -> dynamic)?
    fun start()
    fun stop()
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}
/** Exposes the JavaScript [HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement) to Kotlin */
public external abstract class HTMLFrameSetElement : HTMLElement, WindowEventHandlers {
    open var cols: String
    open var rows: String
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

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DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
HTMLFrameElement : HTMLElement {\n    open var name: String\n    open var scrolling: String\n    open var src:
String\n    open var frameBorder: String\n    open var longDesc: String\n    open var noResize: Boolean\n    open val
contentDocument: Document?\n    open val contentWindow: Window?\n    open var marginHeight: String\n    open
var marginWidth: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\npublic external abstract class
HTMLDirectoryElement : HTMLElement {\n    open var compact: Boolean\n\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\n/**\n * Exposes the JavaScript
[HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement) to Kotlin\n *\n\npublic
external abstract class HTMLFontElement : HTMLElement {\n    open var color: String\n    open var face: String\n
open var size: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n        }\n}\n\npublic external interface External
{\n    fun AddSearchProvider()\n    fun IsSearchProviderInstalled()\n}\n\npublic external interface EventInit {\n
var bubbles: Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n
var cancelable: Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n
var composed: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun EventInit(bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): EventInit {\n    val o = js(\"({})\")\n    o[\"bubbles\"] =

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bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\n/**\n * Exposes the
JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n */\npublic
external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event {\n
open val detail: Any?\n  fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail:
Any?)\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface CustomEventInit :
EventInit {\n  var detail: Any? /* = null */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun CustomEventInit(detail: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CustomEventInit {\n  val o
= js("{}")\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n
o["composed"] = composed\n  return o\n}\n\npublic external interface EventListenerOptions {\n  var capture:
Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun EventListenerOptions(capture:
Boolean? = false): EventListenerOptions {\n  val o = js("{}")\n  o["capture"] = capture\n  return
o\n}\n\npublic external interface AddEventListenerOptions : EventListenerOptions {\n  var passive: Boolean? /* =
false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var once: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun AddEventListenerOptions(passive:
Boolean? = false, once: Boolean? = false, capture: Boolean? = false): AddEventListenerOptions {\n  val o =
js("{}")\n  o["passive"] = passive\n  o["once"] = once\n  o["capture"] = capture\n  return o\n}\n\npublic
external interface NonElementParentNode {\n  fun getElementById(elementId: String): Element?\n}\n\n/**\n *
Exposes the JavaScript
[DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n */\n
public external interface DocumentOrShadowRoot {\n  val fullscreenElement: Element?\n  get() =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode) to Kotlin\n */\npublic external interface
ParentNode {\n  val children: HTMLCollection\n  val firstElementChild: Element?\n  get() =
definedExternally\n  val lastElementChild: Element?\n  get() = definedExternally\n  val childElementCount:
Int\n  fun prepend(vararg nodes: dynamic)\n  fun append(vararg nodes: dynamic)\n  fun querySelector(selectors:
String): Element?\n  fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n * Exposes the JavaScript
[NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to
Kotlin\n */\npublic external interface NonDocumentTypeChildNode {\n  val previousElementSibling: Element?\n
get() = definedExternally\n  val nextElementSibling: Element?\n  get() = definedExternally\n}\n\n/**\n *
Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n */\n
public external interface ChildNode {\n  fun before(vararg nodes: dynamic)\n  fun after(vararg nodes:
dynamic)\n  fun replaceWith(vararg nodes: dynamic)\n  fun remove()\n}\n\n/**\n * Exposes the JavaScript
[Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n */\npublic external interface Slotable
{\n  val assignedSlot: HTMLSlotElement?\n  get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n */\npublic external abstract class
NodeList : ItemArrayLike<Node> {\n  override fun item(index: Int):
Node?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun NodeList.get(index: Int):
Node? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n */\npublic
external abstract class HTMLCollection : ItemArrayLike<Element>, UnionElementOrHTMLCollection {\n
override fun item(index: Int): Element?\n  fun namedItem(name: String):

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Element? \n} \n \n @ Suppress(\ "INVISIBLE_REFERENCE\ ",
\ "INVISIBLE_MEMBER\ ") \n @ kotlin.internal.InlineOnly \n public inline operator fun HTMLCollection.get(index:
Int): Element? = asDynamic()[index] \n \n @ Suppress(\ "INVISIBLE_REFERENCE\ ",
\ "INVISIBLE_MEMBER\ ") \n @ kotlin.internal.InlineOnly \n public inline operator fun HTMLCollection.get(name:
String): Element? = asDynamic()[name] \n \n /** \n * Exposes the JavaScript
[MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin \n * \n public
external open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) { \n fun
observe(target: Node, options: MutationObserverInit = definedExternally) \n fun disconnect() \n fun
takeRecords(): Array<MutationRecord> \n } \n \n /** \n * Exposes the JavaScript
[MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit) to Kotlin \n
* \n public external interface MutationObserverInit { \n var childList: Boolean? /* = false */ \n get() =
definedExternally \n set(value) = definedExternally \n var attributes: Boolean? \n get() =
definedExternally \n set(value) = definedExternally \n var characterData: Boolean? \n get() =
definedExternally \n set(value) = definedExternally \n var subtree: Boolean? /* = false */ \n get() =
definedExternally \n set(value) = definedExternally \n var attributeOldValue: Boolean? \n get() =
definedExternally \n set(value) = definedExternally \n var characterDataOldValue: Boolean? \n get() =
definedExternally \n set(value) = definedExternally \n var attributeFilter: Array<String>? \n get() =
definedExternally \n set(value) = definedExternally \n } \n \n @ Suppress(\ "INVISIBLE_REFERENCE\ ",
\ "INVISIBLE_MEMBER\ ") \n @ kotlin.internal.InlineOnly \n public inline fun MutationObserverInit(childList:
Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? = false,
attributeOldValue: Boolean? = undefined, characterDataOldValue: Boolean? = undefined, attributeFilter:
Array<String>? = undefined): MutationObserverInit { \n val o = js(\ "{ }") \n o["childList"] = childList \n
o["attributes"] = attributes \n o["characterData"] = characterData \n o["subtree"] = subtree \n
o["attributeOldValue"] = attributeOldValue \n o["characterDataOldValue"] = characterDataOldValue \n
o["attributeFilter"] = attributeFilter \n return o \n } \n \n /** \n * Exposes the JavaScript
[MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin \n * \n public external
abstract class MutationRecord { \n open val type: String \n open val target: Node \n open val addedNodes:
NodeList \n open val removedNodes: NodeList \n open val previousSibling: Node? \n open val nextSibling:
Node? \n open val attributeName: String? \n open val attributeNamespace: String? \n open val oldValue:
String? \n } \n \n /** \n * Exposes the JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node) to
Kotlin \n * \n public external abstract class Node : EventTarget { \n open val nodeType: Short \n open val
nodeName: String \n open val baseURI: String \n open val isConnected: Boolean \n open val ownerDocument:
Document? \n open val parentNode: Node? \n open val parentElement: Element? \n open val childNodes:
NodeList \n open val firstChild: Node? \n open val lastChild: Node? \n open val previousSibling: Node? \n
open val nextSibling: Node? \n open var nodeValue: String? \n open var textContent: String? \n fun
getRootNode(options: GetRootNodeOptions = definedExternally): Node \n fun hasChildNodes(): Boolean \n fun
normalize() \n fun cloneNode(deep: Boolean = definedExternally): Node \n fun isEqualNode(otherNode: Node?):
Boolean \n fun isSameNode(otherNode: Node?): Boolean \n fun compareDocumentPosition(other: Node): Short \n
fun contains(other: Node?): Boolean \n fun lookupPrefix(namespace: String?): String? \n fun
lookupNamespaceURI(prefix: String?): String? \n fun isDefaultNamespace(namespace: String?): Boolean \n fun
insertBefore(node: Node, child: Node?): Node \n fun appendChild(node: Node): Node \n fun replaceChild(node:
Node, child: Node): Node \n fun removeChild(child: Node): Node \n \n companion object { \n val
ELEMENT_NODE: Short \n val ATTRIBUTE_NODE: Short \n val TEXT_NODE: Short \n val
CDATA_SECTION_NODE: Short \n val ENTITY_REFERENCE_NODE: Short \n val ENTITY_NODE:
Short \n val PROCESSING_INSTRUCTION_NODE: Short \n val COMMENT_NODE: Short \n val
DOCUMENT_NODE: Short \n val DOCUMENT_TYPE_NODE: Short \n val
DOCUMENT_FRAGMENT_NODE: Short \n val NOTATION_NODE: Short \n val
DOCUMENT_POSITION_DISCONNECTED: Short \n val DOCUMENT_POSITION_PRECEDING: Short \n

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    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }n}\n\npublic external interface
GetRootNodeOptions {\n    var composed: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun GetRootNodeOptions(composed:
Boolean? = false): GetRootNodeOptions {\n    val o = js(\"({})\")\n    o[\"composed\"] = composed\n    return
o\n}\n\n/**\n * Exposes the JavaScript [Document](https://developer.mozilla.org/en/docs/Web/API/Document) to
Kotlin\n */\n\npublic external open class Document : Node, GlobalEventHandlers,
DocumentAndElementEventHandlers, NonElementParentNode, DocumentOrShadowRoot, ParentNode,
GeometryUtils {\n    open val implementation: DOMImplementation\n    open val URL: String\n    open val
documentURI: String\n    open val origin: String\n    open val compatMode: String\n    open val characterSet:
String\n    open val charset: String\n    open val inputEncoding: String\n    open val contentType: String\n    open val
doctype: DocumentType?\n    open val documentElement: Element?\n    open val location: Location?\n    var
domain: String\n    open val referrer: String\n    var cookie: String\n    open val lastModified: String\n    open val
readyState: DocumentReadyState\n    var title: String\n    var dir: String\n    var body: HTMLElement?\n    open val
head: HTMLHeadElement?\n    open val images: HTMLCollection\n    open val embeds: HTMLCollection\n    open
val plugins: HTMLCollection\n    open val links: HTMLCollection\n    open val forms: HTMLCollection\n    open
val scripts: HTMLCollection\n    open val currentScript: HTMLScriptElement?\n    open val defaultView:
Window?\n    open val activeElement: Element?\n    var designMode: String\n    var onreadystatechange: ((Event) ->
dynamic)?\n    var fgColor: String\n    var linkColor: String\n    var vlinkColor: String\n    var alinkColor: String\n
var bgColor: String\n    open val anchors: HTMLCollection\n    open val applets: HTMLCollection\n    open val all:
HTMLAllCollection\n    open val scrollingElement: Element?\n    open val styleSheets: StyleSheetList\n    open val
rootElement: SVGSVGElement?\n    open val fullscreenEnabled: Boolean\n    open val fullscreen: Boolean\n    var
onfullscreenchange: ((Event) -> dynamic)?\n    var onfullscreenerror: ((Event) -> dynamic)?\n    override var
onabort: ((Event) -> dynamic)?\n    override var onblur: ((FocusEvent) -> dynamic)?\n    override var oncancel:
((Event) -> dynamic)?\n    override var oncanplay: ((Event) -> dynamic)?\n    override var oncanplaythrough:
((Event) -> dynamic)?\n    override var onchange: ((Event) -> dynamic)?\n    override var onclick: ((MouseEvent) ->
dynamic)?\n    override var onclose: ((Event) -> dynamic)?\n    override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n    override var oncuechange: ((Event) -> dynamic)?\n    override var ondblclick: ((MouseEvent) ->
dynamic)?\n    override var ondrag: ((DragEvent) -> dynamic)?\n    override var ondragend: ((DragEvent) ->
dynamic)?\n    override var ondragenter: ((DragEvent) -> dynamic)?\n    override var ondragexit: ((DragEvent) ->
dynamic)?\n    override var ondragleave: ((DragEvent) -> dynamic)?\n    override var ondragover: ((DragEvent) ->
dynamic)?\n    override var ondragstart: ((DragEvent) -> dynamic)?\n    override var ondrop: ((DragEvent) ->
dynamic)?\n    override var ondurationchange: ((Event) -> dynamic)?\n    override var onemptied: ((Event) ->
dynamic)?\n    override var onended: ((Event) -> dynamic)?\n    override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n    override var onfocus: ((FocusEvent) -> dynamic)?\n    override var oninput: ((InputEvent) -
> dynamic)?\n    override var oninvalid: ((Event) -> dynamic)?\n    override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n    override var onkeypress: ((KeyboardEvent) -> dynamic)?\n    override var onkeyup:
((KeyboardEvent) -> dynamic)?\n    override var onload: ((Event) -> dynamic)?\n    override var onloadeddata:
((Event) -> dynamic)?\n    override var onloadedmetadata: ((Event) -> dynamic)?\n    override var onloadend:
((Event) -> dynamic)?\n    override var onloadstart: ((ProgressEvent) -> dynamic)?\n    override var onmousedown:
((MouseEvent) -> dynamic)?\n    override var onmouseenter: ((MouseEvent) -> dynamic)?\n    override var
onmouseleave: ((MouseEvent) -> dynamic)?\n    override var onmousemove: ((MouseEvent) -> dynamic)?\n
    override var onmouseout: ((MouseEvent) -> dynamic)?\n    override var onmouseover: ((MouseEvent) ->
dynamic)?\n    override var onmouseup: ((MouseEvent) -> dynamic)?\n    override var onwheel: ((WheelEvent) ->
dynamic)?\n    override var onpause: ((Event) -> dynamic)?\n    override var onplay: ((Event) -> dynamic)?\n
    override var onplaying: ((Event) -> dynamic)?\n    override var onprogress: ((ProgressEvent) -> dynamic)?\n

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override var onratechange: ((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n  override var
onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var onseeked:
((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect: ((Event) ->
dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n  override var
ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var
ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var onlostpointercapture: ((PointerEvent) ->
dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var onpointermove:
((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n  override var
onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) -> dynamic)?\n
override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter: ((PointerEvent) ->
dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override val fullscreenElement: Element?\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  fun getElementsByTagName(qualifiedName: String): HTMLCollection\n
fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n  fun
getElementsByTagName(className: String): HTMLCollection\n  fun createElement(localName: String,
options: ElementCreationOptions = definedExternally): Element\n  fun createElementNS(namespace: String?,
qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n  fun
createDocumentFragment(): DocumentFragment\n  fun createTextNode(data: String): Text\n  fun
createCDATASection(data: String): CDATASection\n  fun createComment(data: String): Comment\n  fun
createProcessingInstruction(target: String, data: String): ProcessingInstruction\n  fun importNode(node: Node,
deep: Boolean = definedExternally): Node\n  fun adoptNode(node: Node): Node\n  fun
createAttribute(localName: String): Attr\n  fun createAttributeNS(namespace: String?, qualifiedName: String):
Attr\n  fun createEvent(`interface`: String): Event\n  fun createRange(): Range\n  fun createNodeIterator(root:
Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): NodeIterator\n  fun
createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)? =
definedExternally): NodeIterator\n  fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter:
NodeFilter? = definedExternally): TreeWalker\n  fun createTreeWalker(root: Node, whatToShow: Int =
definedExternally, filter: ((Node) -> Short)? = definedExternally): TreeWalker\n  fun
getElementsByTagName(elementName: String): NodeList\n  fun open(type: String = definedExternally, replace:
String = definedExternally): Document\n  fun open(url: String, name: String, features: String): Window\n  fun
close()\n  fun write(vararg text: String)\n  fun writeln(vararg text: String)\n  fun hasFocus(): Boolean\n  fun
execCommand(commandId: String, showUI: Boolean = definedExternally, value: String = definedExternally):
Boolean\n  fun queryCommandEnabled(commandId: String): Boolean\n  fun
queryCommandIndeterm(commandId: String): Boolean\n  fun queryCommandState(commandId: String):
Boolean\n  fun queryCommandSupported(commandId: String): Boolean\n  fun
queryCommandValue(commandId: String): String\n  fun clear()\n  fun captureEvents()\n  fun releaseEvents()\n
fun elementFromPoint(x: Double, y: Double): Element?\n  fun elementsFromPoint(x: Double, y: Double):
Array<Element>\n  fun caretPositionFromPoint(x: Double, y: Double): CaretPosition?\n  fun createTouch(view:
Window, target: EventTarget, identifier: Int, pageX: Int, pageY: Int, screenX: Int, screenY: Int): Touch\n  fun
createTouchList(vararg touches: Touch): TouchList\n  fun exitFullscreen(): Promise<Unit>\n  override fun
getElementById(elementId: String): Element?\n  override fun prepend(vararg nodes: dynamic)\n  override fun
append(vararg nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun
querySelectorAll(selectors: String): NodeList\n  override fun getBoxQuads(options: BoxQuadOptions /* =
definedExternally */): Array<DOMQuad>\n  override fun convertQuadFromNode(quad: dynamic, from: dynamic,

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options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertPointFromNode(point: DOMPointInit, from: dynamic,
options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n  companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun Document.get(name: String):
dynamic = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n *\npublic external
open class XMLDocument : Document {\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
ElementCreationOptions {\n  var `is`: String?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String?
= undefined): ElementCreationOptions {\n  val o = js("{}")\n  o["is"] = `is`\n  return o\n}\n\n/**\n *
Exposes the JavaScript
[DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to Kotlin\n
*\npublic external abstract class DOMImplementation {\n  fun createDocumentType(qualifiedName: String,
publicId: String, systemId: String): DocumentType\n  fun createDocument(namespace: String?, qualifiedName:
String, doctype: DocumentType? = definedExternally): XMLDocument\n  fun createHTMLDocument(title: String
= definedExternally): Document\n  fun hasFeature(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to Kotlin\n *\npublic external
abstract class DocumentType : Node, ChildNode {\n  open val name: String\n  open val publicId: String\n  open
val systemId: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
ElementCreationOptions {\n  var `is`: String?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String?
= undefined): ElementCreationOptions {\n  val o = js("{}")\n  o["is"] = `is`\n  return o\n}\n\n/**\n *
Exposes the JavaScript
[DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to Kotlin\n
*\npublic external abstract class DOMImplementation {\n  fun createDocumentType(qualifiedName: String,
publicId: String, systemId: String): DocumentType\n  fun createDocument(namespace: String?, qualifiedName:
String, doctype: DocumentType? = definedExternally): XMLDocument\n  fun createHTMLDocument(title: String
= definedExternally): Document\n  fun hasFeature(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to Kotlin\n *\npublic external
abstract class DocumentType : Node, ChildNode {\n  open val name: String\n  open val publicId: String\n  open
val systemId: String\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
ElementCreationOptions {\n  var `is`: String?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String?
= undefined): ElementCreationOptions {\n  val o = js("{}")\n  o["is"] = `is`\n  return o\n}\n\n/**\n *
Exposes the JavaScript

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DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [DocumentFragment](https://developer.mozilla.org/en/docs/Web/API/DocumentFragment) to Kotlin\n \*\npublic external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n override val children: HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n override fun getElementById(elementId: String): Element?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n\ncompanion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [ShadowRoot](https://developer.mozilla.org/en/docs/Web/API/ShadowRoot) to Kotlin\n \*\npublic external open class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n open val mode: ShadowRootMode\n open val host: Element\n override val fullscreenElement: Element?\n\ncompanion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }\n}\n\n/\*\*\n \* Exposes the JavaScript [Element](https://developer.mozilla.org/en/docs/Web/API/Element) to Kotlin\n \*\npublic external abstract class Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils, UnionElementOrHTMLCollection, UnionElementOrRadioNodeList, UnionElementOrMouseEvent, UnionElementOrProcessingInstruction {\n open val namespaceURI: String?\n open val prefix: String?\n open val localName: String\n open val tagName: String\n open var id: String\n open var className: String\n open val classList: DOMTokenList\n open var slot: String\n open val attributes: NamedNodeMap\n open val shadowRoot: ShadowRoot?\n open var scrollTop: Double\n open var scrollLeft: Double\n open val scrollWidth: Int\n open val scrollHeight: Int\n open val clientTop: Int\n open val clientLeft: Int\n open val clientWidth: Int\n open val clientHeight: Int\n open var innerHTML: String\n open var outerHTML: String\n fun hasAttributes(): Boolean\n fun getAttributeNames(): Array<String>\n fun getAttribute(qualifiedName: String): String?\n fun getAttributeNS(namespace: String?, localName: String): String?\n fun setAttribute(qualifiedName: String, value: String)\n fun setAttributeNS(namespace: String?, qualifiedName: String, value: String)\n fun removeAttribute(qualifiedName: String)\n fun removeAttributeNS(namespace: String?, localName: String)\n fun hasAttribute(qualifiedName: String): Boolean\n fun hasAttributeNS(namespace: String?, localName: String): Boolean\n fun getAttributeNode(qualifiedName: String): Attr?\n fun getAttributeNodeNS(namespace: String?, localName: String): Attr?\n fun setAttributeNode(attr: Attr): Attr?\n fun setAttributeNodeNS(attr: Attr): Attr?\n fun removeAttributeNode(attr: Attr): Attr\n fun attachShadow(init: ShadowRootInit): ShadowRoot\n fun closest(selectors: String): Element?\n fun matches(selectors: String): Boolean\n fun webkitMatchesSelector(selectors: String): Boolean\n fun getElementsByTagName(qualifiedName: String): HTMLCollection\n fun

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getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun
getElementsByClassName(classNames: String): HTMLCollection\n fun insertAdjacentElement(where: String,
element: Element): Element?\n fun insertAdjacentText(where: String, data: String)\n fun getClientRects():
Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun scrollIntoView()\n fun
scrollIntoView(arg: dynamic)\n fun scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double,
y: Double)\n fun scrollTo(options: ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n
fun scrollBy(options: ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun
insertAdjacentHTML(position: String, text: String)\n fun setPointerCapture(pointerId: Int)\n fun
releasePointerCapture(pointerId: Int)\n fun hasPointerCapture(pointerId: Int): Boolean\n fun requestFullscreen():
Promise<Unit>\n\n companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n\n\npublic external interface
ShadowRootInit {\n    var mode: ShadowRootMode?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode:
ShadowRootMode?): ShadowRootInit {\n    val o = js("({})")\n    o["mode"] = mode\n    return o\n}\n\n/**\n *
Exposes the JavaScript [NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to
Kotlin\n */\npublic external abstract class NamedNodeMap : ItemArrayLike<Attr> {\n    fun
getNamedItemNS(namespace: String?, localName: String): Attr?\n    fun setNamedItem(attr: Attr): Attr?\n    fun
setNamedItemNS(attr: Attr): Attr?\n    fun removeNamedItem(qualifiedName: String): Attr\n    fun
removeNamedItemNS(namespace: String?, localName: String): Attr\n    override fun item(index: Int): Attr?\n    fun
getNamedItem(qualifiedName: String): Attr?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun NamedNodeMap.get(index:
Int): Attr? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun
NamedNodeMap.get(qualifiedName: String): Attr? = asDynamic()[qualifiedName]\n\n/**\n * Exposes the
JavaScript [Attr](https://developer.mozilla.org/en/docs/Web/API/Attr) to Kotlin\n */\npublic external abstract class
Attr : Node {\n    open val namespaceURI: String?\n    open val prefix: String?\n    open val localName: String\n    open val name: String\n    open var value: String\n    open val ownerElement: Element?\n    open val specified:
Boolean\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n
        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n}\n\n\n/**\n * Exposes the JavaScript
[CharacterData](https://developer.mozilla.org/en/docs/Web/API/CharacterData) to Kotlin\n */\npublic external
abstract class CharacterData : Node, NonDocumentTypeChildNode, ChildNode {\n    open var data: String\n    open
val length: Int\n    fun substringData(offset: Int, count: Int): String\n    fun appendData(data: String)\n    fun
insertData(offset: Int, data: String)\n    fun deleteData(offset: Int, count: Int)\n    fun replaceData(offset: Int, count:

```



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Int, data: String)\n\n companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n}\n}\n\n/**\n * Exposes the JavaScript [Text](https://developer.mozilla.org/en/docs/Web/API/Text) to Kotlin\n */\n\npublic external open class Text(data: String = definedExternally) : CharacterData, Slotable, GeometryUtils {\n    open val wholeText: String\n    override val assignedSlot: HTMLSlotElement?\n    override val previousElementSibling: Element?\n    override val nextElementSibling: Element?\n    fun splitText(offset: Int): Text\n    override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n    override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n    override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n    override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n    override fun before(vararg nodes: dynamic)\n    override fun after(vararg nodes: dynamic)\n    override fun replaceWith(vararg nodes: dynamic)\n    override fun remove()\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [CDATASection](https://developer.mozilla.org/en/docs/Web/API/CDATASection) to Kotlin\n */\n\npublic external open class CDATASection : Text {\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [ProcessingInstruction](https://developer.mozilla.org/en/docs/Web/API/ProcessingInstruction) to Kotlin\n */\n\npublic external abstract class ProcessingInstruction : CharacterData, LinkStyle, UnionElementOrProcessingInstruction {\n    open val target: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n    }\n}

```

DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [Comment](https://developer.mozilla.org/en/docs/Web/API/Comment) to Kotlin\n \*\npublic external open class Comment(data: String = definedExternally) : CharacterData {\n override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n companion object {\n val ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val

DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val

DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [Range](https://developer.mozilla.org/en/docs/Web/API/Range) to Kotlin\n \*\npublic external open class Range {\n open val startContainer: Node\n open val startOffset: Int\n open val endContainer: Node\n open val endOffset: Int\n open val collapsed: Boolean\n open val commonAncestorContainer: Node\n fun setStart(node: Node, offset: Int)\n fun setEnd(node: Node, offset: Int)\n fun setStartBefore(node: Node)\n fun setStartAfter(node: Node)\n fun setEndBefore(node: Node)\n fun setEndAfter(node: Node)\n fun collapse(toStart: Boolean = definedExternally)\n fun selectNode(node: Node)\n fun selectNodeContents(node: Node)\n fun compareBoundaryPoints(how: Short, sourceRange: Range): Short\n fun deleteContents()\n fun extractContents(): DocumentFragment\n fun cloneContents(): DocumentFragment\n fun insertNode(node: Node)\n fun surroundContents(newParent: Node)\n fun cloneRange(): Range\n fun detach()\n fun isPointInRange(node: Node, offset: Int): Boolean\n fun comparePoint(node: Node, offset: Int): Short\n fun intersectsNode(node: Node): Boolean\n fun getClientRects(): Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun createContextualFragment(fragment: String): DocumentFragment\n companion object {\n val START\_TO\_START: Short\n val START\_TO\_END: Short\n val END\_TO\_END: Short\n val END\_TO\_START: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript [NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin\n \*\npublic external abstract class NodeIterator {\n open val root: Node\n open val referenceNode: Node\n open val pointerBeforeReferenceNode: Boolean\n open val whatToShow: Int\n open val filter: NodeFilter?\n fun nextNode(): Node?\n fun previousNode(): Node?\n fun detach()\n }n}\n\n/\*\*\n \* Exposes the JavaScript [TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin\n \*\npublic external abstract class TreeWalker {\n open val root: Node\n open val whatToShow: Int\n open val filter: NodeFilter?\n open var currentNode: Node\n fun parentNode(): Node?\n fun firstChild(): Node?\n fun lastChild(): Node?\n fun previousSibling(): Node?\n fun nextSibling(): Node?\n fun previousNode(): Node?\n fun nextNode(): Node?\n }n}\n\n/\*\*\n \* Exposes the JavaScript [NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin\n \*\n@Suppress("NESTED\_CLASS\_IN\_EXTERNAL\_INTERFACE")\npublic external interface NodeFilter {\n fun acceptNode(node: Node): Short\n companion object {\n val FILTER\_ACCEPT: Short\n val FILTER\_REJECT: Short\n val FILTER\_SKIP: Short\n val SHOW\_ALL: Int\n val SHOW\_ELEMENT: Int\n val SHOW\_ATTRIBUTE: Int\n val SHOW\_TEXT: Int\n val SHOW\_CDATA\_SECTION: Int\n val SHOW\_ENTITY\_REFERENCE: Int\n val SHOW\_ENTITY: Int\n val SHOW\_PROCESSING\_INSTRUCTION: Int\n val SHOW\_COMMENT: Int\n val

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SHOW_DOCUMENT: Int\n    val SHOW_DOCUMENT_TYPE: Int\n    val
SHOW_DOCUMENT_FRAGMENT: Int\n    val SHOW_NOTATION: Int\n } \n \n /** \n * Exposes the
JavaScript [DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList) to Kotlin \n * \n public
external abstract class DOMTokenList : ItemArrayLike<String> { \n    open var value: String \n    fun contains(token:
String): Boolean \n    fun add(vararg tokens: String) \n    fun remove(vararg tokens: String) \n    fun toggle(token:
String, force: Boolean = definedExternally): Boolean \n    fun replace(token: String, newToken: String) \n    fun
supports(token: String): Boolean \n    override fun item(index: Int):
String? \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun DOMTokenList.get(index:
Int): String? = asDynamic()[index] \n \n /** \n * Exposes the JavaScript
[DOMPointReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly) to Kotlin \n * \n public
external open class DOMPointReadOnly(x: Double, y: Double, z: Double, w: Double) { \n    open val x: Double \n
    open val y: Double \n    open val z: Double \n    open val w: Double \n    fun matrixTransform(matrix:
DOMMatrixReadOnly): DOMPoint \n } \n \n /** \n * Exposes the JavaScript
[DOMPoint](https://developer.mozilla.org/en/docs/Web/API/DOMPoint) to Kotlin \n * \n public external open class
DOMPoint : DOMPointReadOnly { \n    constructor(point: DOMPointInit) \n    constructor(x: Double =
definedExternally, y: Double = definedExternally, z: Double = definedExternally, w: Double = definedExternally) \n
    override var x: Double \n    override var y: Double \n    override var z: Double \n    override var w:
Double \n } \n \n /** \n * Exposes the JavaScript
[DOMPointInit](https://developer.mozilla.org/en/docs/Web/API/DOMPointInit) to Kotlin \n * \n public external
interface DOMPointInit { \n    var x: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n    var y: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n    var z: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n    var w: Double? /* = 1.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun DOMPointInit(x: Double? = 0.0, y:
Double? = 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit { \n    val o = js("{}") \n    o["x"] = x \n
    o["y"] = y \n    o["z"] = z \n    o["w"] = w \n    return o \n } \n \n /** \n * Exposes the JavaScript
[DOMRect](https://developer.mozilla.org/en/docs/Web/API/DOMRect) to Kotlin \n * \n public external open class
DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally,
height: Double = definedExternally) : DOMRectReadOnly { \n    override var x: Double \n    override var y: Double \n
    override var width: Double \n    override var height: Double \n } \n \n /** \n * Exposes the JavaScript
[DOMRectReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly) to Kotlin \n * \n public
external open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) { \n    open val x:
Double \n    open val y: Double \n    open val width: Double \n    open val height: Double \n    open val top: Double \n
    open val right: Double \n    open val bottom: Double \n    open val left: Double \n } \n \n public external interface
DOMRectInit { \n    var x: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n    var y: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n    var width: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n    var height: Double? /* = 0.0 */ \n        get() = definedExternally \n        set(value) =
definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun DOMRectInit(x: Double? = 0.0, y:
Double? = 0.0, width: Double? = 0.0, height: Double? = 0.0): DOMRectInit { \n    val o = js("{}") \n    o["x"] =
x \n    o["y"] = y \n    o["width"] = width \n    o["height"] = height \n    return o \n } \n \n public external interface
DOMRectList : ItemArrayLike<DOMRect> { \n    override fun item(index: Int):
DOMRect? \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun DOMRectList.get(index: Int):
DOMRect? = asDynamic()[index] \n \n /** \n * Exposes the JavaScript

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[DOMQuad](https://developer.mozilla.org/en/docs/Web/API/DOMQuad) to Kotlin\n */\npublic external open class
DOMQuad {\n    constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3:
DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)\n    constructor(rect: DOMRectInit)\n
open val p1: DOMPoint\n    open val p2: DOMPoint\n    open val p3: DOMPoint\n    open val p4: DOMPoint\n
open val bounds: DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrixReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly) to Kotlin\n
*/\npublic external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {\n    open val a: Double\n
open val b: Double\n    open val c: Double\n    open val d: Double\n    open val e: Double\n    open val f: Double\n
open val m11: Double\n    open val m12: Double\n    open val m13: Double\n    open val m14: Double\n    open val
m21: Double\n    open val m22: Double\n    open val m23: Double\n    open val m24: Double\n    open val m31:
Double\n    open val m32: Double\n    open val m33: Double\n    open val m34: Double\n    open val m41: Double\n
open val m42: Double\n    open val m43: Double\n    open val m44: Double\n    open val is2D: Boolean\n    open
val isIdentity: Boolean\n    fun translate(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n
fun scale(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun scale3d(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally, originZ:
Double = definedExternally): DOMMatrix\n    fun scaleNonUniform(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n    fun rotate(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n    fun rotateFromVector(x:
Double, y: Double): DOMMatrix\n    fun rotateAxisAngle(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n    fun skewX(sx: Double): DOMMatrix\n    fun skewY(sy: Double): DOMMatrix\n    fun
multiply(other: DOMMatrix): DOMMatrix\n    fun flipX(): DOMMatrix\n    fun flipY(): DOMMatrix\n    fun
inverse(): DOMMatrix\n    fun transformPoint(point: DOMPointInit = definedExternally): DOMPoint\n    fun
toFloat32Array(): Float32Array\n    fun toFloat64Array(): Float64Array\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n */\npublic external open
class DOMMatrix() : DOMMatrixReadOnly {\n    constructor(transformList: String)\n    constructor(other:
DOMMatrixReadOnly)\n    constructor(array32: Float32Array)\n    constructor(array64: Float64Array)\n
constructor(numberSequence: Array<Double>)\n    override var a: Double\n    override var b: Double\n    override
var c: Double\n    override var d: Double\n    override var e: Double\n    override var f: Double\n    override var m11:
Double\n    override var m12: Double\n    override var m13: Double\n    override var m14: Double\n    override var
m21: Double\n    override var m22: Double\n    override var m23: Double\n    override var m24: Double\n    override
var m31: Double\n    override var m32: Double\n    override var m33: Double\n    override var m34: Double\n
override var m41: Double\n    override var m42: Double\n    override var m43: Double\n    override var m44:
Double\n    fun multiplySelf(other: DOMMatrix): DOMMatrix\n    fun preMultiplySelf(other: DOMMatrix):
DOMMatrix\n    fun translateSelf(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n    fun
scaleSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun scale3dSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally,
originZ: Double = definedExternally): DOMMatrix\n    fun scaleNonUniformSelf(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n    fun rotateSelf(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n    fun rotateFromVectorSelf(x:
Double, y: Double): DOMMatrix\n    fun rotateAxisAngleSelf(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n    fun skewXSelf(sx: Double): DOMMatrix\n    fun skewYSelf(sy: Double): DOMMatrix\n    fun
invertSelf(): DOMMatrix\n    fun setMatrixValue(transformList: String): DOMMatrix\n}\n\npublic external
interface ScrollOptions {\n    var behavior: ScrollBehavior? /* = ScrollBehavior.AUTO */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollOptions(behavior:
ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n    val o = js(\"({})\")\n    o[\"behavior\"] = behavior\n

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return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n */\npublic external
interface ScrollToOptions : ScrollOptions {\n    var left: Double?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var top: Double?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? =
undefined, top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n
val o = js(\"({})\")\n    o[\"left\"] = left\n    o[\"top\"] = top\n    o[\"behavior\"] = behavior\n    return o\n}\n\n/**\n * Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n */\npublic external abstract class MediaQueryList : EventTarget {\n    open val media: String\n    open val
matches: Boolean\n    open var onchange: ((Event) -> dynamic)?\n    fun addListener(listener: EventListener?)\n
fun addListener(listener: ((Event) -> Unit)?)\n    fun removeListener(listener: EventListener?)\n    fun
removeListener(listener: ((Event) -> Unit)?)\n}\n\n/**\n * Exposes the JavaScript
[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent) to Kotlin\n
*/\npublic external open class MediaQueryListEvent(type: String, eventInitDict: MediaQueryListEventInit =
definedExternally) : Event {\n    open val media: String\n    open val matches: Boolean\n\n    companion object {\n
        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n\n    public external interface MediaQueryListEventInit : EventInit {\n        var
media: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n        var matches:
Boolean? /* = false */\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n    @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun MediaQueryListEventInit(media:
String? = \"\", matches: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): MediaQueryListEventInit {\n        val o = js(\"({})\")\n        o[\"media\"] = media\n        o[\"matches\"] =
matches\n        o[\"bubbles\"] = bubbles\n        o[\"cancelable\"] = cancelable\n        o[\"composed\"] = composed\n        return
o\n}\n\n/**\n * Exposes the JavaScript [Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin\n
*/\npublic external abstract class Screen {\n    open val availWidth: Int\n    open val availHeight: Int\n    open val
width: Int\n    open val height: Int\n    open val colorDepth: Int\n    open val pixelDepth: Int\n}\n\n/**\n * Exposes
the JavaScript [CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin\n */\npublic
external abstract class CaretPosition {\n    open val offsetNode: Node\n    open val offset: Int\n    fun
getClientRect(): DOMRect?\n}\n\npublic external interface ScrollIntoViewOptions : ScrollOptions {\n    var block:
ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n        get() = definedExternally\n        set(value) =
definedExternally\n    var inline: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n        get() =
definedExternally\n        set(value) = definedExternally\n}\n\n    @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun ScrollIntoViewOptions(block:
ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline: ScrollLogicalPosition? =
ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollIntoViewOptions {\n
val o = js(\"({})\")\n        o[\"block\"] = block\n        o[\"inline\"] = inline\n        o[\"behavior\"] = behavior\n        return
o\n}\n\npublic external interface BoxQuadOptions {\n    var box: CSSBoxType? /* = CSSBoxType.BORDER */\n        get() =
definedExternally\n        set(value) = definedExternally\n    var relativeTo: dynamic\n        get() =
definedExternally\n        set(value) = definedExternally\n}\n\n    @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun BoxQuadOptions(box: CSSBoxType?
= CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {\n        val o = js(\"({})\")\n        o[\"box\"] =
box\n        o[\"relativeTo\"] = relativeTo\n        return o\n}\n\npublic external interface
ConvertCoordinateOptions {\n    var fromBox: CSSBoxType? /* = CSSBoxType.BORDER */\n        get() =
definedExternally\n        set(value) = definedExternally\n    var toBox: CSSBoxType? /* = CSSBoxType.BORDER
*/\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n    @Suppress(\"INVISIBLE_REFERENCE\",

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\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline fun ConvertCoordinateOptions(fromBox:
CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? = CSSBoxType.BORDER):
ConvertCoordinateOptions { \n val o = js("{}")\n o["fromBox"] = fromBox\n o["toBox"] = toBox\n
return o}\n\n/**\n * Exposes the JavaScript
[GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin\n *\npublic external
interface GeometryUtils { \n fun getBoxQuads(options: BoxQuadOptions = definedExternally):
Array<DOMQuad>\n fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions = definedExternally): DOMQuad\n fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions =
definedExternally): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to Kotlin\n *\npublic external abstract class Touch
{\n open val identifier: Int\n open val target: EventTarget\n open val screenX: Int\n open val screenY: Int\n
open val clientX: Int\n open val clientY: Int\n open val pageX: Int\n open val pageY: Int\n open val region:
String?\n}\n\npublic external abstract class TouchList : ItemArrayLike<Touch> {\n override fun item(index: Int):
Touch?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
\ "INVISIBLE_MEMBER" )\n@kotlin.internal.InlineOnly\npublic inline operator fun TouchList.get(index: Int):
Touch? = asDynamic()[index]\n\npublic external open class TouchEvent : UIEvent {\n open val touches:
TouchList\n open val targetTouches: TouchList\n open val changedTouches: TouchList\n open val altKey:
Boolean\n open val metaKey: Boolean\n open val ctrlKey: Boolean\n open val shiftKey: Boolean\n\n
companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET:
Short\n val BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin\n *\npublic external open class
Image(width: Int = definedExternally, height: Int = definedExternally) : HTMLImageElement {\n override var
onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel:
((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough:
((Event) -> dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) ->
dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) ->
dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) ->
dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) ->
dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) ->
dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) ->
dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) ->
dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) ->
dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup:
((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata:
((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend:
((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown:
((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var
onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) ->
dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) ->
dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var

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onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var onseeked:
((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect: ((Event) ->
dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n  override var
ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var
ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var onlostpointercapture: ((PointerEvent) ->
dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var onpointermove:
((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n  override var
onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) -> dynamic)?\n
override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter: ((PointerEvent) ->
dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n  override val isContentEditable:
Boolean\n  override val style: CSSStyleDeclaration\n  override val children: HTMLCollection\n  override val
firstElementChild: Element?\n  override val lastElementChild: Element?\n  override val childElementCount: Int\n
  override val previousElementSibling: Element?\n  override val nextElementSibling: Element?\n  override val
assignedSlot: HTMLSlotElement?\n  override fun prepend(vararg nodes: dynamic)\n  override fun append(vararg
nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun
querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes: dynamic)\n  override fun
after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n  override fun remove()\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  public external open class
Audio(src: String = definedExternally) : HTMLAudioElement {\n    override var onabort: ((Event) -> dynamic)?\n
  override var onblur: ((FocusEvent) -> dynamic)?\n  override var oncancel: ((Event) -> dynamic)?\n
  override var oncanplay: ((Event) -> dynamic)?\n  override var oncanplaythrough: ((Event) -> dynamic)?\n
  override var onchange: ((Event) -> dynamic)?\n  override var onclick: ((MouseEvent) -> dynamic)?\n
  override var onclose: ((Event) -> dynamic)?\n  override var oncontextmenu: ((MouseEvent) -> dynamic)?\n
  override var oncuechange: ((Event) -> dynamic)?\n  override var ondblclick: ((MouseEvent) -> dynamic)?\n
  override var ondrag: ((DragEvent) -> dynamic)?\n  override var ondragend: ((DragEvent) -> dynamic)?\n
  override var ondragenter: ((DragEvent) -> dynamic)?\n  override var ondragexit: ((DragEvent) -> dynamic)?\n
  override var ondragleave: ((DragEvent) -> dynamic)?\n  override var ondragover: ((DragEvent) -> dynamic)?\n
  override var ondragstart: ((DragEvent) -> dynamic)?\n  override var ondrop: ((DragEvent) -> dynamic)?\n
  override var ondurationchange: ((Event) -> dynamic)?\n  override var onemptied: ((Event) -> dynamic)?\n
  override var onended: ((Event) -> dynamic)?\n  override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n
  override var onfocus:

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((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid:
((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress:
((KeyboardEvent) -> dynamic)?\n  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload:
((Event) -> dynamic)?\n  override var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata:
((Event) -> dynamic)?\n  override var onloadend: ((Event) -> dynamic)?\n  override var onloadstart:
((ProgressEvent) -> dynamic)?\n  override var onmousedown: ((MouseEvent) -> dynamic)?\n  override var
onmouseenter: ((MouseEvent) -> dynamic)?\n  override var onmouseleave: ((MouseEvent) -> dynamic)?\n
override var onmousemove: ((MouseEvent) -> dynamic)?\n  override var onmouseout: ((MouseEvent) ->
dynamic)?\n  override var onmouseover: ((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent)
-> dynamic)?\n  override var onwheel: ((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) ->
dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n
override var onprogress: ((ProgressEvent) -> dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n
override var onreset: ((Event) -> dynamic)?\n  override var onresize: ((Event) -> dynamic)?\n  override var
onscroll: ((Event) -> dynamic)?\n  override var onseeked: ((Event) -> dynamic)?\n  override var onseeking:
((Event) -> dynamic)?\n  override var onselect: ((Event) -> dynamic)?\n  override var onshow: ((Event) ->
dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n
override var onsuspend: ((Event) -> dynamic)?\n  override var ontimeupdate: ((Event) -> dynamic)?\n  override
var ontoggle: ((Event) -> dynamic)?\n  override var onvolumechange: ((Event) -> dynamic)?\n  override var
onwaiting: ((Event) -> dynamic)?\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override
var onlostpointercapture: ((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) ->
dynamic)?\n  override var onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup:
((PointerEvent) -> dynamic)?\n  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var
onpointerover: ((PointerEvent) -> dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n
override var onpointerenter: ((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) ->
dynamic)?\n  override var oncopy: ((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) ->
dynamic)?\n  override var onpaste: ((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n
override val isContentEditable: Boolean\n  override val style: CSSStyleDeclaration\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  override val previousElementSibling: Element?\n  override val
nextElementSibling: Element?\n  override val assignedSlot: HTMLSlotElement?\n  override fun prepend(vararg
nodes: dynamic)\n  override fun append(vararg nodes: dynamic)\n  override fun querySelector(selectors: String):
Element?\n  override fun querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes:
dynamic)\n  override fun after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n
override fun remove()\n  override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */):
Array<DOMQuad>\n  override fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n
override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val NETWORK_EMPTY: Short\n    val
NETWORK_IDLE: Short\n    val NETWORK_LOADING: Short\n    val NETWORK_NO_SOURCE: Short\n
    val HAVE_NOTHING: Short\n    val HAVE_METADATA: Short\n    val HAVE_CURRENT_DATA:
Short\n    val HAVE_FUTURE_DATA: Short\n    val HAVE_ENOUGH_DATA: Short\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n

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    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n } \n} \n \n /** \n * Exposes the JavaScript
[Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin \n * \n public external open class
Option(text: String = definedExternally, value: String = definedExternally, defaultSelected: Boolean =
definedExternally, selected: Boolean = definedExternally) : HTMLOptionElement { \n    override var onabort:
((Event) -> dynamic)? \n    override var onblur: ((FocusEvent) -> dynamic)? \n    override var oncancel: ((Event) ->
dynamic)? \n    override var oncanplay: ((Event) -> dynamic)? \n    override var oncanplaythrough: ((Event) ->
dynamic)? \n    override var onchange: ((Event) -> dynamic)? \n    override var onclick: ((MouseEvent) ->
dynamic)? \n    override var onclose: ((Event) -> dynamic)? \n    override var oncontextmenu: ((MouseEvent) ->
dynamic)? \n    override var oncuechange: ((Event) -> dynamic)? \n    override var ondblclick: ((MouseEvent) ->
dynamic)? \n    override var ondrag: ((DragEvent) -> dynamic)? \n    override var ondragend: ((DragEvent) ->
dynamic)? \n    override var ondragenter: ((DragEvent) -> dynamic)? \n    override var ondragexit: ((DragEvent) ->
dynamic)? \n    override var ondragleave: ((DragEvent) -> dynamic)? \n    override var ondragover: ((DragEvent) ->
dynamic)? \n    override var ondragstart: ((DragEvent) -> dynamic)? \n    override var ondrop: ((DragEvent) ->
dynamic)? \n    override var ondurationchange: ((Event) -> dynamic)? \n    override var onemptied: ((Event) ->
dynamic)? \n    override var onended: ((Event) -> dynamic)? \n    override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)? \n    override var onfocus: ((FocusEvent) -> dynamic)? \n    override var oninput: ((InputEvent) -
> dynamic)? \n    override var oninvalid: ((Event) -> dynamic)? \n    override var onkeydown: ((KeyboardEvent) ->
dynamic)? \n    override var onkeypress: ((KeyboardEvent) -> dynamic)? \n    override var onkeyup:
((KeyboardEvent) -> dynamic)? \n    override var onload: ((Event) -> dynamic)? \n    override var onloadeddata:
((Event) -> dynamic)? \n    override var onloadedmetadata: ((Event) -> dynamic)? \n    override var onloadend:
((Event) -> dynamic)? \n    override var onloadstart: ((ProgressEvent) -> dynamic)? \n    override var onmousedown:
((MouseEvent) -> dynamic)? \n    override var onmouseenter: ((MouseEvent) -> dynamic)? \n    override var
onmouseleave: ((MouseEvent) -> dynamic)? \n    override var onmousemove: ((MouseEvent) -> dynamic)? \n
    override var onmouseout: ((MouseEvent) -> dynamic)? \n    override var onmouseover: ((MouseEvent) ->
dynamic)? \n    override var onmouseup: ((MouseEvent) -> dynamic)? \n    override var onwheel: ((WheelEvent) ->
dynamic)? \n    override var onpause: ((Event) -> dynamic)? \n    override var onplay: ((Event) -> dynamic)? \n
    override var onplaying: ((Event) -> dynamic)? \n    override var onprogress: ((ProgressEvent) -> dynamic)? \n
    override var onratechange: ((Event) -> dynamic)? \n    override var onreset: ((Event) -> dynamic)? \n
    override var onresize: ((Event) -> dynamic)? \n    override var onscroll: ((Event) -> dynamic)? \n
    override var onseeked: ((Event) -> dynamic)? \n    override var onseeking: ((Event) -> dynamic)? \n
    override var onselect: ((Event) -> dynamic)? \n    override var onshow: ((Event) -> dynamic)? \n
    override var onstalled: ((Event) -> dynamic)? \n    override var onsubmit: ((Event) -> dynamic)? \n
    override var onsuspend: ((Event) -> dynamic)? \n    override var ontimeupdate: ((Event) -> dynamic)? \n
    override var ontoggle: ((Event) -> dynamic)? \n    override var onvolumechange: ((Event) -> dynamic)? \n
    override var onwaiting: ((Event) -> dynamic)? \n    override var ongotpointercapture: ((PointerEvent) ->
dynamic)? \n    override var onlostpointercapture: ((PointerEvent) -> dynamic)? \n    override var
onpointerdown: ((PointerEvent) -> dynamic)? \n    override var onpointermove: ((PointerEvent) -> dynamic)? \n
    override var onpointerup: ((PointerEvent) -> dynamic)? \n    override var onpointercancel: ((PointerEvent) ->
dynamic)? \n    override var onpointerover: ((PointerEvent) -> dynamic)? \n    override var onpointerout:
((PointerEvent) -> dynamic)? \n    override var onpointerenter: ((PointerEvent) -> dynamic)? \n
    override var onpointerleave: ((PointerEvent) -> dynamic)? \n    override var oncopy:
((ClipboardEvent) -> dynamic)? \n    override var oncut: ((ClipboardEvent) -> dynamic)? \n    override var onpaste:
((ClipboardEvent) -> dynamic)? \n    override var contentEditable: String \n    override val isContentEditable:
Boolean \n    override val style: CSSStyleDeclaration \n    override val children: HTMLCollection \n    override val
firstElementChild: Element? \n    override val lastElementChild: Element? \n    override val childElementCount: Int \n
    override val previousElementSibling: Element? \n    override val nextElementSibling: Element? \n    override val
assignedSlot: HTMLSlotElement? \n    override fun prepend(vararg nodes: dynamic) \n    override fun append(vararg

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nodes: dynamic)\n  override fun querySelector(selectors: String): Element?\n  override fun
querySelectorAll(selectors: String): NodeList\n  override fun before(vararg nodes: dynamic)\n  override fun
after(vararg nodes: dynamic)\n  override fun replaceWith(vararg nodes: dynamic)\n  override fun remove()\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n\n  companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n\n  public external interface
UnionElementOrHTMLCollection\n  public external interface UnionElementOrRadioNodeList\n  public external
interface UnionHTMLOptGroupElementOrHTMLOptionElement\n  public external interface
UnionAudioTrackOrTextTrackOrVideoTrack\n  public external interface UnionElementOrMouseEvent\n  public
external interface UnionMessagePortOrWindowProxy\n  public external interface MediaProvider\n  public
external interface RenderingContext\n  public external interface HTMLOrSVGImageElement :
CanvasImageSource\n  public external interface CanvasImageSource : ImageBitmapSource\n  public external
interface ImageBitmapSource\n  public external interface HTMLOrSVGScriptElement\n  /* please, don't
implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n  public external
interface DocumentReadyState {\n  companion object\n}\n  public inline val
DocumentReadyState.Companion.LOADING: DocumentReadyState get() =
"loading".asDynamic().unsafeCast<DocumentReadyState>()\n  public inline val
DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() =
"interactive".asDynamic().unsafeCast<DocumentReadyState>()\n  public inline val
DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() =
"complete".asDynamic().unsafeCast<DocumentReadyState>()\n  /* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n  public external
interface CanPlayTypeResult {\n  companion object\n}\n  public inline val
CanPlayTypeResult.Companion.EMPTY: CanPlayTypeResult get() =
""\n  public inline val CanPlayTypeResult.Companion.MAYBE:
CanPlayTypeResult get() = "maybe".asDynamic().unsafeCast<CanPlayTypeResult>()\n  public inline val
CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() =
"probably".asDynamic().unsafeCast<CanPlayTypeResult>()\n  /* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n  public external
interface TextTrackMode {\n  companion object\n}\n  public inline val TextTrackMode.Companion.DISABLED:
TextTrackMode get() = "disabled".asDynamic().unsafeCast<TextTrackMode>()\n  public inline val
TextTrackMode.Companion.HIDDEN: TextTrackMode get() =
"hidden".asDynamic().unsafeCast<TextTrackMode>()\n  public inline val
TextTrackMode.Companion.SHOWING: TextTrackMode get() =
"showing".asDynamic().unsafeCast<TextTrackMode>()\n  /* please, don't implement this interface!

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*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface TextTrackKind {\n  companion object\n}\n\npublic inline val TextTrackKind.Companion.SUBTITLES:
TextTrackKind get() = "subtitles".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CAPTIONS: TextTrackKind get() =
"captions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.DESCRPTIONS: TextTrackKind get() =
"descriptions".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.CHAPTERS: TextTrackKind get() =
"chapters".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val
TextTrackKind.Companion.METADATA: TextTrackKind get() =
"metadata".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface!
*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface SelectionMode {\n  companion object\n}\n\npublic inline val SelectionMode.Companion.SELECT:
SelectionMode get() = "select".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.START: SelectionMode get() =
"start".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.END:
SelectionMode get() = "end".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val
SelectionMode.Companion.PRESERVE: SelectionMode get() =
"preserve".asDynamic().unsafeCast<SelectionMode>()\n\n/* please, don't implement this interface!
*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface CanvasFillRule {\n  companion object\n}\n\npublic inline val CanvasFillRule.Companion.NONZERO:
CanvasFillRule get() = "nonzero".asDynamic().unsafeCast<CanvasFillRule>()\n\npublic inline val
CanvasFillRule.Companion.EVENODD: CanvasFillRule get() =
"evenodd".asDynamic().unsafeCast<CanvasFillRule>()\n\n/* please, don't implement this interface!
*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface ImageSmoothingQuality {\n  companion object\n}\n\npublic inline val
ImageSmoothingQuality.Companion.LOW: ImageSmoothingQuality get() =
"low".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
"medium".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
"high".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n/* please, don't implement this interface!
*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface CanvasLineCap {\n  companion object\n}\n\npublic inline val CanvasLineCap.Companion.BUTT:
CanvasLineCap get() = "butt".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val
CanvasLineCap.Companion.ROUND: CanvasLineCap get() =
"round".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val CanvasLineCap.Companion.SQUARE:
CanvasLineCap get() = "square".asDynamic().unsafeCast<CanvasLineCap>()\n\n/* please, don't implement this
interface! *\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic
external interface CanvasLineJoin {\n  companion object\n}\n\npublic inline val
CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
"round".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = "bevel".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
"miter".asDynamic().unsafeCast<CanvasLineJoin>()\n\n/* please, don't implement this interface!
*\n@jsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface CanvasTextAlign {\n  companion object\n}\n\npublic inline val CanvasTextAlign.Companion.START:
CanvasTextAlign get() = "start".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val

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CanvasTextAlign.Companion.END: CanvasTextAlign get() =
    \"end\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.LEFT:
CanvasTextAlign get() = \"left\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.RIGHT: CanvasTextAlign get() =
    \"right\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
    \"center\".asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasTextBaseline {\n    companion object\n}\n\npublic inline val CanvasTextBaseline.Companion.TOP:
CanvasTextBaseline get() = \"top\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.HANGING: CanvasTextBaseline get() =
    \"hanging\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.MIDDLE: CanvasTextBaseline get() =
    \"middle\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
    \"alphabetic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
    \"ideographic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
    \"bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface CanvasDirection {\n    companion object\n}\n\npublic inline val CanvasDirection.Companion.LTR:
CanvasDirection get() = \"ltr\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val
CanvasDirection.Companion.RTL: CanvasDirection get() =
    \"rtl\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val CanvasDirection.Companion.INHERIT:
CanvasDirection get() = \"inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this
interface! *\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface ScrollRestoration {\n    companion object\n}\n\npublic inline val
ScrollRestoration.Companion.AUTO: ScrollRestoration get() =
    \"auto\".asDynamic().unsafeCast<ScrollRestoration>()\n\npublic inline val
ScrollRestoration.Companion.MANUAL: ScrollRestoration get() =
    \"manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ImageOrientation {\n    companion object\n}\n\npublic inline val ImageOrientation.Companion.NONE:
ImageOrientation get() = \"none\".asDynamic().unsafeCast<ImageOrientation>()\n\npublic inline val
ImageOrientation.Companion.FLIPY: ImageOrientation get() =
    \"flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface PremultiplyAlpha {\n    companion object\n}\n\npublic inline val PremultiplyAlpha.Companion.NONE:
PremultiplyAlpha get() = \"none\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() =
    \"premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val
PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() =
    \"default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface!
*\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface ColorSpaceConversion {\n    companion object\n}\n\npublic inline val
ColorSpaceConversion.Companion.NONE: ColorSpaceConversion get() =
    \"none\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\npublic inline val

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ColorSpaceConversion.Companion.DEFAULT: ColorSpaceConversion get() =
`default`.asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface ResizeQuality {\n  companion object\n}\n\npublic inline val ResizeQuality.Companion.PIXELATED:
ResizeQuality get() = `pixelated`.asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.LOW: ResizeQuality get() =
`low`.asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.MEDIUM:
ResizeQuality get() = `medium`.asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val
ResizeQuality.Companion.HIGH: ResizeQuality get() = `high`.asDynamic().unsafeCast<ResizeQuality>()\n\n/*
please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface BinaryType {\n  companion object\n}\n\npublic inline val BinaryType.Companion.BLOB: BinaryType
get() = `blob`.asDynamic().unsafeCast<BinaryType>()\n\npublic inline val
BinaryType.Companion.ARRAYBUFFER: BinaryType get() =
`arraybuffer`.asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface WorkerType {\n  companion object\n}\n\npublic inline val WorkerType.Companion.CLASSIC:
WorkerType get() = `classic`.asDynamic().unsafeCast<WorkerType>()\n\npublic inline val
WorkerType.Companion.MODULE: WorkerType get() =
`module`.asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface ShadowRootMode {\n  companion object\n}\n\npublic inline val ShadowRootMode.Companion.OPEN:
ShadowRootMode get() = `open`.asDynamic().unsafeCast<ShadowRootMode>()\n\npublic inline val
ShadowRootMode.Companion.CLOSED: ShadowRootMode get() =
`closed`.asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface ScrollBehavior {\n  companion object\n}\n\npublic inline val ScrollBehavior.Companion.AUTO:
ScrollBehavior get() = `auto`.asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val
ScrollBehavior.Companion.INSTANT: ScrollBehavior get() =
`instant`.asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.SMOOTH:
ScrollBehavior get() = `smooth`.asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this
interface! *\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic
external interface ScrollLogicalPosition {\n  companion object\n}\n\npublic inline val
ScrollLogicalPosition.Companion.START: ScrollLogicalPosition get() =
`start`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() =
`center`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() =
`end`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val
ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() =
`nearest`.asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface CSSBoxType {\n  companion object\n}\n\npublic inline val CSSBoxType.Companion.MARGIN:
CSSBoxType get() = `margin`.asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.BORDER: CSSBoxType get() =
`border`.asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.PADDING:
CSSBoxType get() = `padding`.asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val
CSSBoxType.Companion.CONTENT: CSSBoxType get() =

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\"content\".asDynamic().unsafeCast<CSSBoxType>()\",\"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.fetch\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.files.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Headers](https://developer.mozilla.org/en/docs/Web/API/Headers) to Kotlin\n */\n\npublic external open class
Headers(init: dynamic = definedExternally) {\n    fun append(name: String, value: String)\n    fun delete(name:
String)\n    fun get(name: String): String?\n    fun has(name: String): Boolean\n    fun set(name: String, value:
String)\n}\n\n/**\n * Exposes the JavaScript [Body](https://developer.mozilla.org/en/docs/Web/API/Body) to
Kotlin\n */\n\npublic external interface Body {\n    val bodyUsed: Boolean\n    fun arrayBuffer():
Promise<ArrayBuffer>\n    fun blob(): Promise<Blob>\n    fun formData(): Promise<FormData>\n    fun json():
Promise<Any?>\n    fun text(): Promise<String>\n}\n\n/**\n * Exposes the JavaScript
[Request](https://developer.mozilla.org/en/docs/Web/API/Request) to Kotlin\n */\n\npublic external open class
Request(input: dynamic, init: RequestInit = definedExternally) : Body {\n    open val method: String\n    open val
url: String\n    open val headers: Headers\n    open val type: RequestType\n    open val destination:
RequestDestination\n    open val referrer: String\n    open val referrerPolicy: dynamic\n    open val mode:
RequestMode\n    open val credentials: RequestCredentials\n    open val cache: RequestCache\n    open val redirect:
RequestRedirect\n    open val integrity: String\n    open val keepalive: Boolean\n    override val bodyUsed:
Boolean\n    fun clone(): Request\n    override fun arrayBuffer(): Promise<ArrayBuffer>\n    override fun blob():
Promise<Blob>\n    override fun formData(): Promise<FormData>\n    override fun json(): Promise<Any?>\n    override
fun text(): Promise<String>\n}\n\npublic external interface RequestInit {\n    var method: String?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var headers: dynamic\n    get() =
definedExternally\n    set(value) = definedExternally\n    var body: dynamic\n    get() = definedExternally\n
set(value) = definedExternally\n    var referrer: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var referrerPolicy: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n    var mode: RequestMode?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var credentials: RequestCredentials?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var cache: RequestCache?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var redirect: RequestRedirect?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var integrity: String?\n    get() = definedExternally\n    set(value) = definedExternally\n
var keepalive: Boolean?\n    get() = definedExternally\n    set(value) = definedExternally\n    var window:
Any?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun RequestInit(method: String? =
undefined, headers: dynamic = undefined, body: dynamic = undefined, referrer: String? = undefined, referrerPolicy:
dynamic = undefined, mode: RequestMode? = undefined, credentials: RequestCredentials? = undefined, cache:
RequestCache? = undefined, redirect: RequestRedirect? = undefined, integrity: String? = undefined, keepalive:
Boolean? = undefined, window: Any? = undefined): RequestInit {\n    val o = js(\"{\}\")\n    o[\"method\"] =
method\n    o[\"headers\"] = headers\n    o[\"body\"] = body\n    o[\"referrer\"] = referrer\n    o[\"referrerPolicy\"] =
referrerPolicy\n    o[\"mode\"] = mode\n    o[\"credentials\"] = credentials\n    o[\"cache\"] = cache\n    o[\"redirect\"]
= redirect\n    o[\"integrity\"] = integrity\n    o[\"keepalive\"] = keepalive\n    o[\"window\"] = window\n    return
o\n}\n\n/**\n * Exposes the JavaScript [Response](https://developer.mozilla.org/en/docs/Web/API/Response) to
Kotlin\n */\n\npublic external open class Response(body: dynamic = definedExternally, init: ResponseInit =
definedExternally) : Body {\n    open val type: ResponseType\n    open val url: String\n    open val redirected:
Boolean\n    open val status: Short\n    open val ok: Boolean\n    open val statusText: String\n    open val headers:
Headers\n    open val body: dynamic\n    open val trailer: Promise<Headers>\n    override val bodyUsed: Boolean\n
fun clone(): Response\n    override fun arrayBuffer(): Promise<ArrayBuffer>\n    override fun blob():
Promise<Blob>\n    override fun formData(): Promise<FormData>\n    override fun json(): Promise<Any?>\n

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override fun text(): Promise<String>\n\n    companion object {\n        fun error(): Response\n        fun redirect(url:
String, status: Short = definedExternally): Response\n    }\n\n    public external interface ResponseInit {\n        var
status: Short? /* = 200 */\n        get() = definedExternally\n        set(value) = definedExternally\n        var statusText:
String? /* = \"OK\" */\n        get() = definedExternally\n        set(value) = definedExternally\n        var headers:
dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    }\n\n    @Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n    @kotlin.internal.InlineOnly\n    public inline fun ResponseInit(status: Short? = 200,
statusText: String? = \"OK\", headers: dynamic = undefined): ResponseInit {\n        val o = js(\"({})\")\n        o[\"status\"]
= status\n        o[\"statusText\"] = statusText\n        o[\"headers\"] = headers\n        return o\n    }\n\n    /* please, don't implement
this interface! */\n    @JsName(\"null\")\n    @Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n    public
external interface RequestType {\n        companion object\n    }\n\n    public inline val RequestType.Companion.EMPTY:
RequestType get() = \"\"\n\n    public inline val
RequestType.Companion.AUDIO: RequestType get() =
\"audio\"\n\n    public inline val RequestType.Companion.FONT:
RequestType get() = \"font\"\n\n    public inline val
RequestType.Companion.IMAGE: RequestType get() =
\"image\"\n\n    public inline val RequestType.Companion.SCRIPT:
RequestType get() = \"script\"\n\n    public inline val
RequestType.Companion.STYLE: RequestType get() =
\"style\"\n\n    public inline val RequestType.Companion.TRACK:
RequestType get() = \"track\"\n\n    public inline val
RequestType.Companion.VIDEO: RequestType get() = \"video\"\n\n    /*
please, don't implement this interface!
*/\n    @JsName(\"null\")\n    @Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n    public external
interface RequestDestination {\n        companion object\n    }\n\n    public inline val
RequestDestination.Companion.EMPTY: RequestDestination get() =
\"\"\n\n    public inline val
RequestDestination.Companion.DOCUMENT: RequestDestination get() =
\"document\"\n\n    public inline val
RequestDestination.Companion.EMBED: RequestDestination get() =
\"embed\"\n\n    public inline val
RequestDestination.Companion.FONT: RequestDestination get() =
\"font\"\n\n    public inline val
RequestDestination.Companion.IMAGE: RequestDestination get() =
\"image\"\n\n    public inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
\"manifest\"\n\n    public inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
\"media\"\n\n    public inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
\"object\"\n\n    public inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
\"report\"\n\n    public inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
\"script\"\n\n    public inline val
RequestDestination.Companion.SERVICEWORKER: RequestDestination get() =
\"serviceworker\"\n\n    public inline val
RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =

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\"sharedworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
\"style\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
\"worker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.XSLT: RequestDestination get() =
\"xslt\".asDynamic().unsafeCast<RequestDestination>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestMode {\n\n    companion object\n\n}\n\npublic inline val RequestMode.Companion.NAVIGATE:
RequestMode get() = \"navigate\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = \"same-
origin\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val RequestMode.Companion.NO_CORS:
RequestMode get() = \"no-cors\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.CORS: RequestMode get() = \"cors\".asDynamic().unsafeCast<RequestMode>()\n\n/*
please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestCredentials {\n\n    companion object\n\n}\n\npublic inline val RequestCredentials.Companion.OMIT:
RequestCredentials get() = \"omit\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = \"same-
origin\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
\"include\".asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestCache {\n\n    companion object\n\n}\n\npublic inline val RequestCache.Companion.DEFAULT:
RequestCache get() = \"default\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.NO_STORE: RequestCache get() = \"no-
store\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.RELOAD:
RequestCache get() = \"reload\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.NO_CACHE: RequestCache get() = \"no-
cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = \"force-
cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = \"only-if-
cached\".asDynamic().unsafeCast<RequestCache>()\n\n/* please, don't implement this interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic external
interface RequestRedirect {\n\n    companion object\n\n}\n\npublic inline val RequestRedirect.Companion.FOLLOW:
RequestRedirect get() = \"follow\".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val
RequestRedirect.Companion.ERROR: RequestRedirect get() =
\"error\".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.MANUAL:
RequestRedirect get() = \"manual\".asDynamic().unsafeCast<RequestRedirect>()\n\n/* please, don't implement this
interface!
*\n\n@JsName(\"null\")\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npublic
external interface ResponseType {\n\n    companion object\n\n}\n\npublic inline val ResponseType.Companion.BASIC:
ResponseType get() = \"basic\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.CORS: ResponseType get() =
\"cors\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.DEFAULT:
ResponseType get() = \"default\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.ERROR: ResponseType get() =
\"error\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.OPAQUE:

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ResponseType get() = \"opaque\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val
ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() =
\"opaqueredirect\".asDynamic().unsafeCast<ResponseType>()\",/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediacapture\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes
the JavaScript [MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n */\n\npublic
external open class MediaStream() : EventTarget, MediaProvider {\n    constructor(stream: MediaStream)\n
constructor(tracks: Array<MediaStreamTrack>)\n    open val id: String\n    open val active: Boolean\n    var
onaddtrack: ((MediaStreamTrackEvent) -> dynamic)?\n    var onremovetrack: ((MediaStreamTrackEvent) ->
dynamic)?\n    fun getAudioTracks(): Array<MediaStreamTrack>\n    fun getVideoTracks():
Array<MediaStreamTrack>\n    fun getTracks(): Array<MediaStreamTrack>\n    fun getTrackById(trackId: String):
MediaStreamTrack?\n    fun addTrack(track: MediaStreamTrack)\n    fun removeTrack(track: MediaStreamTrack)\n
    fun clone(): MediaStream\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n */\n\npublic
external abstract class MediaStreamTrack : EventTarget {\n    open val kind: String\n    open val id: String\n    open
val label: String\n    open var enabled: Boolean\n    open val muted: Boolean\n    open var onmute: ((Event) ->
dynamic)?\n    open var onunmute: ((Event) -> dynamic)?\n    open val readyState: MediaStreamTrackState\n
open var onended: ((Event) -> dynamic)?\n    open var onoverconstrained: ((Event) -> dynamic)?\n    fun clone():
MediaStreamTrack\n    fun stop()\n    fun getCapabilities(): MediaTrackCapabilities\n    fun getConstraints():
MediaTrackConstraints\n    fun getSettings(): MediaTrackSettings\n    fun applyConstraints(constraints:
MediaTrackConstraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstrain
ts) to Kotlin\n */\n\npublic external interface MediaTrackSupportedConstraints {\n    var width: Boolean? /* = true
*/\n    get() = definedExternally\n    set(value) = definedExternally\n    var height: Boolean? /* = true */\n
get() = definedExternally\n    set(value) = definedExternally\n    var aspectRatio: Boolean? /* = true */\n    get()
= definedExternally\n    set(value) = definedExternally\n    var frameRate: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var facingMode: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var resizeMode: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var volume: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleRate: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var sampleSize: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var echoCancellation: Boolean? /* = true */\n    get()
= definedExternally\n    set(value) = definedExternally\n    var autoGainControl: Boolean? /* = true */\n    get()
= definedExternally\n    set(value) = definedExternally\n    var noiseSuppression: Boolean? /* = true */\n
get() = definedExternally\n    set(value) = definedExternally\n    var latency: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var channelCount: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var deviceId: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var groupId: Boolean? /* = true */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true,
frameRate: Boolean? = true, facingMode: Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true,
sampleRate: Boolean? = true, sampleSize: Boolean? = true, echoCancellation: Boolean? = true, autoGainControl:
Boolean? = true, noiseSuppression: Boolean? = true, latency: Boolean? = true, channelCount: Boolean? = true,
deviceId: Boolean? = true, groupId: Boolean? = true): MediaTrackSupportedConstraints {\n    val o = js(\"({})\")\n
o[\"width\"] = width\n    o[\"height\"] = height\n    o[\"aspectRatio\"] = aspectRatio\n    o[\"frameRate\"] =

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frameRate\n  o["facingMode"] = facingMode\n  o["resizeMode"] = resizeMode\n  o["volume"] = volume\n
o["sampleRate"] = sampleRate\n  o["sampleSize"] = sampleSize\n  o["echoCancellation"] =
echoCancellation\n  o["autoGainControl"] = autoGainControl\n  o["noiseSuppression"] = noiseSuppression\n
o["latency"] = latency\n  o["channelCount"] = channelCount\n  o["deviceId"] = deviceId\n  o["groupId"] =
groupId\n  return o\n}\n\npublic external interface MediaTrackCapabilities {\n  var width: ULongRange?\n
get() = definedExternally\n  set(value) = definedExternally\n  var height: ULongRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var aspectRatio: DoubleRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var frameRate: DoubleRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var facingMode: Array<String>?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var resizeMode: Array<String>?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var volume: DoubleRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var sampleRate: ULongRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var sampleSize: ULongRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var echoCancellation: Array<Boolean>?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var autoGainControl: Array<Boolean>?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var noiseSuppression: Array<Boolean>?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var latency: DoubleRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var channelCount: ULongRange?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var deviceId: String?\n  get() = definedExternally\n
set(value) = definedExternally\n  var groupId: String?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun MediaTrackCapabilities(width:
ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio: DoubleRange? = undefined,
frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined, resizeMode: Array<String>? =
undefined, volume: DoubleRange? = undefined, sampleRate: ULongRange? = undefined, sampleSize:
ULongRange? = undefined, echoCancellation: Array<Boolean>? = undefined, autoGainControl: Array<Boolean>?
= undefined, noiseSuppression: Array<Boolean>? = undefined, latency: DoubleRange? = undefined, channelCount:
ULongRange? = undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackCapabilities
{\n  val o = js("{}")\n  o["width"] = width\n  o["height"] = height\n  o["aspectRatio"] = aspectRatio\n
o["frameRate"] = frameRate\n  o["facingMode"] = facingMode\n  o["resizeMode"] = resizeMode\n
o["volume"] = volume\n  o["sampleRate"] = sampleRate\n  o["sampleSize"] = sampleSize\n
o["echoCancellation"] = echoCancellation\n  o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n  o["latency"] = latency\n  o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n  o["groupId"] = groupId\n  return o\n}\n\n**\n * Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*\n\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n  var advanced:
Array<MediaTrackConstraintSet>?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined,
noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount: dynamic = undefined,
deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraints {\n  val o = js("{}")\n
o["advanced"] = advanced\n  o["width"] = width\n  o["height"] = height\n  o["aspectRatio"] =
aspectRatio\n  o["frameRate"] = frameRate\n  o["facingMode"] = facingMode\n  o["resizeMode"] =
resizeMode\n  o["volume"] = volume\n  o["sampleRate"] = sampleRate\n  o["sampleSize"] = sampleSize\n

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o["echoCancellation"] = echoCancellation\n  o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n  o["latency"] = latency\n  o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n  o["groupId"] = groupId\n  return o\n}\n\npublic external interface
MediaTrackConstraintSet {\n  var width: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n  var height: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n
var aspectRatio: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n  var frameRate:
dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n  var facingMode: dynamic\n
get() = definedExternally\n    set(value) = definedExternally\n  var resizeMode: dynamic\n    get() =
definedExternally\n    set(value) = definedExternally\n  var volume: dynamic\n    get() = definedExternally\n
set(value) = definedExternally\n  var sampleRate: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n  var sampleSize: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n  var echoCancellation: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n  var autoGainControl: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n  var noiseSuppression: dynamic\n    get() = definedExternally\n    set(value) =
definedExternally\n  var latency: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n
var channelCount: dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n  var deviceId:
dynamic\n    get() = definedExternally\n    set(value) = definedExternally\n  var groupId: dynamic\n    get()
= definedExternally\n    set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun MediaTrackConstraintSet(width:
dynamic = undefined, height: dynamic = undefined, aspectRatio: dynamic = undefined, frameRate: dynamic =
undefined, facingMode: dynamic = undefined, resizeMode: dynamic = undefined, volume: dynamic = undefined,
sampleRate: dynamic = undefined, sampleSize: dynamic = undefined, echoCancellation: dynamic = undefined,
autoGainControl: dynamic = undefined, noiseSuppression: dynamic = undefined, latency: dynamic = undefined,
channelCount: dynamic = undefined, deviceId: dynamic = undefined, groupId: dynamic = undefined):
MediaTrackConstraintSet {\n  val o = js("{}")\n  o["width"] = width\n  o["height"] = height\n
o["aspectRatio"] = aspectRatio\n  o["frameRate"] = frameRate\n  o["facingMode"] = facingMode\n
o["resizeMode"] = resizeMode\n  o["volume"] = volume\n  o["sampleRate"] = sampleRate\n
o["sampleSize"] = sampleSize\n  o["echoCancellation"] = echoCancellation\n  o["autoGainControl"] =
autoGainControl\n  o["noiseSuppression"] = noiseSuppression\n  o["latency"] = latency\n
o["channelCount"] = channelCount\n  o["deviceId"] = deviceId\n  o["groupId"] = groupId\n  return
o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin\n\n *^n\npublic
external interface MediaTrackSettings {\n  var width: Int?\n    get() = definedExternally\n    set(value) =
definedExternally\n  var height: Int?\n    get() = definedExternally\n    set(value) = definedExternally\n  var
aspectRatio: Double?\n    get() = definedExternally\n    set(value) = definedExternally\n  var frameRate:
Double?\n    get() = definedExternally\n    set(value) = definedExternally\n  var facingMode: String?\n
get() = definedExternally\n    set(value) = definedExternally\n  var resizeMode: String?\n    get() =
definedExternally\n    set(value) = definedExternally\n  var volume: Double?\n    get() = definedExternally\n
set(value) = definedExternally\n  var sampleRate: Int?\n    get() = definedExternally\n    set(value) =
definedExternally\n  var sampleSize: Int?\n    get() = definedExternally\n    set(value) = definedExternally\n
var echoCancellation: Boolean?\n    get() = definedExternally\n    set(value) = definedExternally\n  var
autoGainControl: Boolean?\n    get() = definedExternally\n    set(value) = definedExternally\n  var
noiseSuppression: Boolean?\n    get() = definedExternally\n    set(value) = definedExternally\n  var latency:
Double?\n    get() = definedExternally\n    set(value) = definedExternally\n  var channelCount: Int?\n
get() = definedExternally\n    set(value) = definedExternally\n  var deviceId: String?\n    get() =
definedExternally\n    set(value) = definedExternally\n  var groupId: String?\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun MediaTrackSettings(width: Int? =

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undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined,
facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate: Int?
= undefined, sampleSize: Int? = undefined, echoCancellation: Boolean? = undefined, autoGainControl: Boolean? =
undefined, noiseSuppression: Boolean? = undefined, latency: Double? = undefined, channelCount: Int? = undefined,
deviceId: String? = undefined, groupId: String? = undefined): MediaTrackSettings {\n  val o = js("{}")\n
o["width"] = width\n  o["height"] = height\n  o["aspectRatio"] = aspectRatio\n  o["frameRate"] =
frameRate\n  o["facingMode"] = facingMode\n  o["resizeMode"] = resizeMode\n  o["volume"] = volume\n
o["sampleRate"] = sampleRate\n  o["sampleSize"] = sampleSize\n  o["echoCancellation"] =
echoCancellation\n  o["autoGainControl"] = autoGainControl\n  o["noiseSuppression"] = noiseSuppression\n
o["latency"] = latency\n  o["channelCount"] = channelCount\n  o["deviceId"] = deviceId\n  o["groupId"] =
groupId\n  return o\n}\n\n**\n * Exposes the JavaScript
[MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n
*\npublic external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) :
Event {\n  open val track: MediaStreamTrack\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface MediaStreamTrackEventInit : EventInit {\n  var track:
MediaStreamTrack?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamTrackEventInit(track:
MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
MediaStreamTrackEventInit {\n  val o = js("{}")\n  o["track"] = track\n  o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\npublic external open class
OverconstrainedErrorEvent(type: String, eventInitDict: OverconstrainedErrorEventInit) : Event {\n  open val error:
dynamic\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val
AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
OverconstrainedErrorEventInit : EventInit {\n  var error: dynamic /* = null */\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun OverconstrainedErrorEventInit(error:
dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
OverconstrainedErrorEventInit {\n  val o = js("{}")\n  o["error"] = error\n  o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n  o["composed"] = composed\n  return o\n}\n\n**\n * Exposes the JavaScript
[MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to Kotlin\n
*\npublic external
abstract class MediaDevices : EventTarget {\n  open var ondevicechange: ((Event) -> dynamic)?\n  fun
enumerateDevices(): Promise<Array<MediaDeviceInfo>>\n  fun getSupportedConstraints():
MediaTrackSupportedConstraints\n  fun getUserMedia(constraints: MediaStreamConstraints = definedExternally):
Promise<MediaStream>\n}\n\n**\n * Exposes the JavaScript
[MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to Kotlin\n
*\npublic
external abstract class MediaDeviceInfo {\n  open val deviceId: String\n  open val kind: MediaDeviceKind\n
open val label: String\n  open val groupId: String\n  fun toJSON(): dynamic\n}\n\npublic external abstract class
InputDeviceInfo : MediaDeviceInfo {\n  fun getCapabilities(): MediaTrackCapabilities\n}\n\n**\n * Exposes the
JavaScript [MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints) to
Kotlin\n
*\npublic external interface MediaStreamConstraints {\n  var video: dynamic /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var audio: dynamic /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamConstraints(video:
dynamic = false, audio: dynamic = false): MediaStreamConstraints {\n  val o = js("{}")\n  o["video"] =
video\n  o["audio"] = audio\n  return o\n}\n\npublic external interface ConstrainsablePattern {\n  var
onoverconstrained: ((Event) -> dynamic)?\n  get() = definedExternally\n  set(value) = definedExternally\n
fun getCapabilities(): Capabilities\n  fun getConstraints(): Constraints\n  fun getSettings(): Settings\n  fun

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\invisible_member\)\n@kotlin.internal.InlineOnly\npublic inline fun Constraints(advanced:
Array<ConstraintSet>? = undefined): Constraints {\n    val o = js("{}")\n    o["advanced"] = advanced\n    return o\n}\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaStreamTrackState {\n    companion object\n}\n\npublic inline val
MediaStreamTrackState.Companion.LIVE: MediaStreamTrackState get() =
"live".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val
MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() =
"ended".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoFacingModeEnum {\n    companion object\n}\n\npublic inline val
VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() =
"user".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() =
"environment".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() =
"left".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() =
"right".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface VideoResizeModeEnum {\n    companion object\n}\n\npublic inline val
VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() =
"none".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val
VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = "crop-and-
scale".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface!
*\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npublic external
interface MediaDeviceKind {\n    companion object\n}\n\npublic inline val
MediaDeviceKind.Companion.AUDIOINPUT: MediaDeviceKind get() =
"audioinput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.AUDIOOUTPUT: MediaDeviceKind get() =
"audiooutput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() =
"videoinput".asDynamic().unsafeCast<MediaDeviceKind>())\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediasource\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\n/**\n * Exposes
the JavaScript [MediaSource](https://developer.mozilla.org/en/docs/Web/API/MediaSource) to Kotlin\n\n\npublic
external open class MediaSource : EventTarget, MediaProvider {\n    open val sourceBuffers: SourceBufferList\n
open val activeSourceBuffers: SourceBufferList\n    open val readyState: ReadyState\n    var duration: Double\n
var onsourceopen: ((Event) -> dynamic)?\n    var onsourceended: ((Event) -> dynamic)?\n    var onsourceclose:
((Event) -> dynamic)?\n    fun addSourceBuffer(type: String): SourceBuffer\n    fun
removeSourceBuffer(sourceBuffer: SourceBuffer)\n    fun endOfStream(error: EndOfStreamError =
definedExternally)\n    fun setLiveSeekableRange(start: Double, end: Double)\n    fun clearLiveSeekableRange()\n
companion object {\n    fun isTypeSupported(type: String): Boolean\n    }\n}\n\n/**\n * Exposes the JavaScript
[SourceBuffer](https://developer.mozilla.org/en/docs/Web/API/SourceBuffer) to Kotlin\n\n\npublic external
abstract class SourceBuffer : EventTarget {\n    open var mode: AppendMode\n    open val updating: Boolean\n
open val buffered: TimeRanges\n    open var timestampOffset: Double\n    open val audioTracks: AudioTrackList\n

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open val videoTracks: VideoTrackList\n open val textTracks: TextTrackList\n open var appendWindowStart:
Double\n open var appendWindowEnd: Double\n open var onupdatestart: ((Event) -> dynamic)?\n open var
onupdate: ((Event) -> dynamic)?\n open var onupdateend: ((Event) -> dynamic)?\n open var onerror: ((Event) ->
dynamic)?\n open var onabort: ((Event) -> dynamic)?\n fun appendBuffer(data: dynamic)\n fun abort()\n fun
remove(start: Double, end: Double)\n}\n\n/**\n * Exposes the JavaScript
[SourceBufferList](https://developer.mozilla.org/en/docs/Web/API/SourceBufferList) to Kotlin\n */\npublic
external abstract class SourceBufferList : EventTarget {\n open val length: Int\n open var onaddsourcebuffer:
((Event) -> dynamic)?\n open var onremovesourcebuffer: ((Event) ->
dynamic)?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SourceBufferList.get(index:
Int): SourceBuffer? = asDynamic()[index]\n\n/* please, don't implement this interface!
*/\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ReadyState {\n companion object\n}\n\npublic inline val ReadyState.Companion.CLOSED: ReadyState
get() = \"closed\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val ReadyState.Companion.OPEN:
ReadyState get() = \"open\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val
ReadyState.Companion.ENDED: ReadyState get() = \"ended\".asDynamic().unsafeCast<ReadyState>()\n\n/*
please, don't implement this interface!
*/\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface EndOfStreamError {\n companion object\n}\n\npublic inline val
EndOfStreamError.Companion.NETWORK: EndOfStreamError get() =
\"network\".asDynamic().unsafeCast<EndOfStreamError>()\n\npublic inline val
EndOfStreamError.Companion.DECODE: EndOfStreamError get() =
\"decode\".asDynamic().unsafeCast<EndOfStreamError>()\n\n/* please, don't implement this interface!
*/\n\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface AppendMode {\n companion object\n}\n\npublic inline val AppendMode.Companion.SEGMENTS:
AppendMode get() = \"segments\".asDynamic().unsafeCast<AppendMode>()\n\npublic inline val
AppendMode.Companion.SEQUENCE: AppendMode get() =
\"sequence\".asDynamic().unsafeCast<AppendMode>()\"/>\n\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.pointerevents\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\n\npublic external interface
PointerEventInit : MouseEventInit {\n var pointerId: Int? /* = 0 */\n get() = definedExternally\n
set(value) = definedExternally\n var width: Double? /* = 1.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var height: Double? /* = 1.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var pressure: Float? /* = 0f */\n get() = definedExternally\n set(value) =
definedExternally\n var tangentialPressure: Float? /* = 0f */\n get() = definedExternally\n set(value) =
definedExternally\n var tiltX: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n
var tiltY: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var twist: Int? /* =
0 */\n get() = definedExternally\n set(value) = definedExternally\n var pointerType: String? /* = \"\" */\n
get() = definedExternally\n set(value) = definedExternally\n var isPrimary: Boolean? /* = false */\n
get() = definedExternally\n set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun PointerEventInit(pointerId: Int? = 0,
width: Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f, tangentialPressure: Float? = 0f, tiltX: Int? = 0,
tiltY: Int? = 0, twist: Int? = 0, pointerType: String? = \"\", isPrimary: Boolean? = false, screenX: Int? = 0, screenY:
Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? =
null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false,
metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn:

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Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock:
Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol:
Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PointerEventInit {\n  val o =
js(\("{}")\n  o["pointerId"] = pointerId\n  o["width"] = width\n  o["height"] = height\n  o["pressure"] =
pressure\n  o["tangentialPressure"] = tangentialPressure\n  o["tiltX"] = tiltX\n  o["tiltY"] = tiltY\n
o["twist"] = twist\n  o["pointerType"] = pointerType\n  o["isPrimary"] = isPrimary\n  o["screenX"] =
screenX\n  o["screenY"] = screenY\n  o["clientX"] = clientX\n  o["clientY"] = clientY\n  o["button"] =
button\n  o["buttons"] = buttons\n  o["relatedTarget"] = relatedTarget\n  o["region"] = region\n
o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] = altKey\n  o["metaKey"] = metaKey\n
o["modifierAltGraph"] = modifierAltGraph\n  o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n  o["modifierFnLock"] = modifierFnLock\n  o["modifierHyper"] =
modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n  o["modifierScrollLock"] =
modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n  o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] = view\n  o["detail"] = detail\n
o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n  return
o\n}\n\n/**\n * Exposes the JavaScript

```

```

[PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n */\npublic external open
class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {\n  open val
pointerId: Int\n  open val width: Double\n  open val height: Double\n  open val pressure: Float\n  open val
tangentialPressure: Float\n  open val tiltX: Int\n  open val tiltY: Int\n  open val twist: Int\n  open val
pointerType: String\n  open val isPrimary: Boolean\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}"/*\n
* Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS
FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage
org.w3c.dom.svg\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.css.*\n\n/**\n * Exposes the JavaScript

```

```

[SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin\n */\npublic external
abstract class SVGElement : Element, ElementCSSInlineStyle, GlobalEventHandlers, SVGElementInstance {\n
open val dataset: DOMStringMap\n  open val ownerSVGElement: SVGSVGElement?\n  open val
viewportElement: SVGElement?\n  open var tabIndex: Int\n  fun focus()\n  fun blur()\n\n  companion object
{\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val
ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n  }\n}\n\npublic external interface
SVGBoundingBoxOptions {\n  var fill: Boolean? /* = true */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var stroke: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var markers: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var clipped: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress(\n  "INVISIBLE_REFERENCE",\n  "INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\npublic inline fun SVGBoundingBoxOptions(fill:
Boolean? = true, stroke: Boolean? = false, markers: Boolean? = false, clipped: Boolean? = false):

```



```

SVGBoundingBoxOptions {
    val o = js("{}")
    o["fill"] = fill
    o["stroke"] = stroke
    o["markers"] = markers
    o["clipped"] = clipped
    return o
}

Exposes the JavaScript [SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement) to Kotlin

public external abstract class SVGGraphicsElement : SVGElement, SVGTests {
    open val transform: SVGAnimatedTransformList
    fun getBBox(options: SVGBoundingBoxOptions = definedExternally): DOMRect
    fun getCTM(): DOMMatrix?
    fun getScreenCTM(): DOMMatrix?

    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short

        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short

        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

Exposes the JavaScript [SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement) to Kotlin

public external abstract class SVGGeometryElement : SVGGraphicsElement {
    open val pathLength: SVGAnimatedNumber
    fun isPointInFill(point: DOMPoint): Boolean
    fun isPointInStroke(point: DOMPoint): Boolean
    fun getTotalLength(): Float
    fun getPointAtLength(distance: Float): DOMPoint

    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short

        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short

        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short
    }
}

Exposes the JavaScript [SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin

public external abstract class SVGNumber {
    open var value: Float
}

Exposes the JavaScript [SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin

public external abstract class SVGLength {
    open val unitType: Short
    open var value: Float
    open var valueInSpecifiedUnits: Float
    open var valueAsString: String
    fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits: Float)
    fun convertToSpecifiedUnits(unitType: Short)

    companion object {
        val SVG_LENGTHTYPE_UNKNOWN: Short
        val SVG_LENGTHTYPE_NUMBER: Short
        val SVG_LENGTHTYPE_PERCENTAGE: Short
        val SVG_LENGTHTYPE_EMS: Short
        val SVG_LENGTHTYPE_EXS: Short
        val SVG_LENGTHTYPE_PX: Short
        val SVG_LENGTHTYPE_CM: Short
        val SVG_LENGTHTYPE_MM: Short
        val SVG_LENGTHTYPE_IN: Short
        val SVG_LENGTHTYPE_PT: Short
        val SVG_LENGTHTYPE_PC: Short
    }
}

Exposes the JavaScript [SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin

public external abstract class SVGAngle {
    open val unitType: Short
    open var value: Float
    open var valueInSpecifiedUnits: Float
    open var valueAsString: String
    fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits: Float)
    fun convertToSpecifiedUnits(unitType: Short)

    companion object {
        val SVG_ANGLETYPE_UNKNOWN: Short
        val SVG_ANGLETYPE_UNSPECIFIED: Short
        val SVG_ANGLETYPE_DEG: Short
        val SVG_ANGLETYPE_RAD: Short
        val SVG_ANGLETYPE_GRAD: Short
    }
}

public external abstract class SVGNameList {
    open val length: Int
    open val numberOfItems: Int
    fun clear()
    fun initialize(newItem: dynamic): dynamic
    fun

```

```

insertItemBefore(newItem: dynamic, index: Int): dynamic\n fun replaceItem(newItem: dynamic, index: Int):
dynamic\n fun removeItem(index: Int): dynamic\n fun appendItem(newItem: dynamic): dynamic\n fun
getItem(index: Int): dynamic\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNameList.get(index: Int):
dynamic = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNameList.set(index: Int,
newItem: dynamic) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to Kotlin\n */\npublic external
abstract class SVGNumberList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun
initialize(newItem: SVGNumber): SVGNumber\n fun insertItemBefore(newItem: SVGNumber, index: Int):
SVGNumber\n fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\n fun removeItem(index: Int):
SVGNumber\n fun appendItem(newItem: SVGNumber): SVGNumber\n fun getItem(index: Int):
SVGNumber\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNumberList.get(index:
Int): SVGNumber? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGNumberList.set(index:
Int, newItem: SVGNumber) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to Kotlin\n */\npublic external
abstract class SVGLengthList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun
initialize(newItem: SVGLength): SVGLength\n fun insertItemBefore(newItem: SVGLength, index: Int):
SVGLength\n fun replaceItem(newItem: SVGLength, index: Int): SVGLength\n fun removeItem(index: Int):
SVGLength\n fun appendItem(newItem: SVGLength): SVGLength\n fun getItem(index: Int):
SVGLength\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGLengthList.get(index:
Int): SVGLength? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGLengthList.set(index: Int,
newItem: SVGLength) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin\n */\npublic external abstract class SVGAnimatedBoolean {\n open var baseVal: Boolean\n open val animVal:
Boolean\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to
Kotlin\n */\npublic external abstract class SVGAnimatedEnumeration {\n open var baseVal: Short\n open val
animVal: Short\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to Kotlin\n */\npublic external abstract class SVGAnimatedInteger {\n open var baseVal: Int\n open val animVal:
Int\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin\n */\npublic external abstract class SVGAnimatedNumber {\n open var baseVal: Float\n open val animVal:
Float\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin\n */\npublic external abstract class SVGAnimatedLength {\n open val baseVal: SVGLength\n open val animVal:
SVGLength\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin\n */\npublic
external abstract class SVGAnimatedAngle {\n open val baseVal: SVGAngle\n open val animVal:
SVGAngle\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin\n */\npublic
external abstract class SVGAnimatedString {\n open var baseVal: String\n open val animVal: String\n}\n\n/**\n * Exposes the JavaScript [SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect)

```

```

to Kotlin\n *\/\npublic external abstract class SVGAnimatedRect {\n  open val baseVal: DOMRect\n  open val animVal: DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin\n
*\/\npublic external abstract class SVGAnimatedNumberList {\n  open val baseVal: SVGNumberList\n  open val animVal: SVGNumberList\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to Kotlin\n
*\/\npublic external abstract class SVGAnimatedLengthList {\n  open val baseVal: SVGLengthList\n  open val animVal: SVGLengthList\n}\n\n/**\n * Exposes the JavaScript
[SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin\n *\/\npublic external
abstract class SVGStringList {\n  open val length: Int\n  open val numberOfItems: Int\n  fun clear()\n  fun
initialize(newItem: String): String\n  fun insertItemBefore(newItem: String, index: Int): String\n  fun
replaceItem(newItem: String, index: Int): String\n  fun removeItem(index: Int): String\n  fun
appendItem(newItem: String): String\n  fun getItem(index: Int):
String\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.get(index:
Int): String? = asDynamic()[index]\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.set(index: Int,
newItem: String) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript
[SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin\n
*\/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface SVGUnitTypes
{\n  companion object {\n    val SVG_UNIT_TYPE_UNKNOWN: Short\n    val
SVG_UNIT_TYPE_USERSPACEONUSE: Short\n    val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[SVGTTests](https://developer.mozilla.org/en/docs/Web/API/SVGTTests) to Kotlin\n *\/\npublic external interface
SVGTTests {\n  val requiredExtensions: SVGStringList\n  val systemLanguage: SVGStringList\n}\n\npublic
external interface SVGFitToViewBox {\n  val viewBox: SVGAnimatedRect\n  val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio\n}\n\n/**\n * Exposes the JavaScript
[SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan) to Kotlin\n
*\/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
SVGZoomAndPan {\n  var zoomAndPan: Short\n\n  companion object {\n    val
SVG_ZOOMANDPAN_UNKNOWN: Short\n    val SVG_ZOOMANDPAN_DISABLE: Short\n    val
SVG_ZOOMANDPAN_MAGNIFY: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin\n *\/\npublic
external interface SVGURIReference {\n  val href: SVGAnimatedString\n}\n\n/**\n * Exposes the JavaScript
[SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin\n *\/\npublic
external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan,
WindowEventHandlers {\n  open val x: SVGAnimatedLength\n  open val y: SVGAnimatedLength\n  open val
width: SVGAnimatedLength\n  open val height: SVGAnimatedLength\n  open var currentScale: Float\n  open
val currentTranslate: DOMPointReadOnly\n  fun getIntersectionList(rect: DOMRectReadOnly, referenceElement:
SVGElement?): NodeList\n  fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?):
NodeList\n  fun checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean\n  fun
checkEnclosure(element: SVGElement, rect: DOMRectReadOnly): Boolean\n  fun deselectAll()\n  fun
createSVGNumber(): SVGNumber\n  fun createSVGLength(): SVGLength\n  fun createSVGAngle():
SVGAngle\n  fun createSVGPoint(): DOMPoint\n  fun createSVGMatrix(): DOMMatrix\n  fun
createSVGRect(): DOMRect\n  fun createSVGTransform(): SVGTransform\n  fun
createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n  fun
getElementById(elementId: String): Element\n  fun suspendRedraw(maxWaitMilliseconds: Int): Int\n  fun
unsuspendRedraw(suspendHandleID: Int)\n  fun unsuspendRedrawAll()\n  fun forceRedraw()\n\n  companion

```

```

object {
    val SVG_ZOOMANDPAN_UNKNOWN: Short
    val SVG_ZOOMANDPAN_DISABLE: Short
    val SVG_ZOOMANDPAN_MAGNIFY: Short
    val ELEMENT_NODE: Short
    val ATTRIBUTE_NODE: Short
    val TEXT_NODE: Short
    val CDATA_SECTION_NODE: Short
    val ENTITY_REFERENCE_NODE: Short
    val ENTITY_NODE: Short
    val PROCESSING_INSTRUCTION_NODE: Short
    val COMMENT_NODE: Short
    val DOCUMENT_NODE: Short
    val DOCUMENT_TYPE_NODE: Short
    val DOCUMENT_FRAGMENT_NODE: Short
    val NOTATION_NODE: Short
    val DOCUMENT_POSITION_DISCONNECTED: Short
    val DOCUMENT_POSITION_PRECEDING: Short
    val DOCUMENT_POSITION_FOLLOWING: Short
    val DOCUMENT_POSITION_CONTAINS: Short
    val DOCUMENT_POSITION_CONTAINED_BY: Short
}

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }

/** Exposes the JavaScript [SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin */
public external abstract class SVGElement : SVGGraphicsElement {
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
    }
}

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }

public external abstract class SVGUnknownElement : SVGGraphicsElement {
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
    }
}

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }

/** Exposes the JavaScript [SVGDefsElement](https://developer.mozilla.org/en/docs/Web/API/SVGDefsElement) to Kotlin */
public external abstract class SVGDefsElement : SVGGraphicsElement {
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
        val DOCUMENT_NODE: Short
        val DOCUMENT_TYPE_NODE: Short
        val DOCUMENT_FRAGMENT_NODE: Short
        val NOTATION_NODE: Short
        val DOCUMENT_POSITION_DISCONNECTED: Short
        val DOCUMENT_POSITION_PRECEDING: Short
        val DOCUMENT_POSITION_FOLLOWING: Short
        val DOCUMENT_POSITION_CONTAINS: Short
        val DOCUMENT_POSITION_CONTAINED_BY: Short
    }
}

DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short }

/** Exposes the JavaScript [SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin */
public external abstract class SVGDescElement : SVGElement {
    companion object {
        val ELEMENT_NODE: Short
        val ATTRIBUTE_NODE: Short
        val TEXT_NODE: Short
        val CDATA_SECTION_NODE: Short
        val ENTITY_REFERENCE_NODE: Short
        val ENTITY_NODE: Short
        val PROCESSING_INSTRUCTION_NODE: Short
        val COMMENT_NODE: Short
    }
}

```

```

DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n
*\npublic external abstract class SVGMetadataElement : SVGElement {\n    companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGTitleElement](https://developer.mozilla.org/en/docs/Web/API/SVGTitleElement) to Kotlin\n
*\npublic
external abstract class SVGTitleElement : SVGElement {\n    companion object {\n    val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE:
Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGSymbolElement](https://developer.mozilla.org/en/docs/Web/API/SVGSymbolElement) to Kotlin\n
*\npublic
external abstract class SVGSymbolElement : SVGGraphicsElement, SVGFitToViewBox {\n    companion object
{\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val
ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGUseElement](https://developer.mozilla.org/en/docs/Web/API/SVGUseElement) to Kotlin\n
*\npublic external
abstract class SVGUseElement : SVGGraphicsElement, SVGURIReference {\n    open val x:
SVGAnimatedLength\n    open val y: SVGAnimatedLength\n    open val width: SVGAnimatedLength\n    open val
height: SVGAnimatedLength\n    open val instanceRoot: SVGElement?\n    open val animatedInstanceRoot:
SVGElement?\n\n    companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE:
Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val

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DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external open class
SVGUseElementShadowRoot : ShadowRoot {\n    companion object {\n        val ELEMENT_NODE: Short\n
    val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
    val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface
SVGElementInstance {\n    val correspondingElement: SVGElement?\n        get() = definedExternally\n    val
correspondingUseElement: SVGUseElement?\n        get() = definedExternally\n}\n\npublic external open class
ShadowAnimation(source: dynamic, newTarget: dynamic) {\n    open val sourceAnimation: dynamic\n}\n\n/**\n *
Exposes the JavaScript [SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement)
to Kotlin\n */\n\npublic external abstract class SVGSwitchElement : SVGGraphicsElement {\n    companion object
{\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface
GetSVGDocument {\n    fun getSVGDocument(): Document\n}\n\n/**\n * Exposes the JavaScript
[SVGStyleElement](https://developer.mozilla.org/en/docs/Web/API/SVGStyleElement) to Kotlin\n */\n\npublic
external abstract class SVGStyleElement : SVGElement, LinkStyle {\n    open var type: String\n    open var media:
String\n    open var title: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGTransform](https://developer.mozilla.org/en/docs/Web/API/SVGTransform) to Kotlin\n */\n\npublic external
abstract class SVGTransform {\n    open val type: Short\n    open val matrix: DOMMatrix\n    open val angle:
Float\n    fun setMatrix(matrix: DOMMatrixReadOnly)\n    fun setTranslate(tx: Float, ty: Float)\n    fun setScale(sx:
Float, sy: Float)\n    fun setRotate(angle: Float, cx: Float, cy: Float)\n    fun setSkewX(angle: Float)\n    fun
setSkewY(angle: Float)\n\n    companion object {\n        val SVG_TRANSFORM_UNKNOWN: Short\n        val
SVG_TRANSFORM_MATRIX: Short\n        val SVG_TRANSFORM_TRANSLATE: Short\n        val

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SVG_TRANSFORM_SCALE: Short\n    val SVG_TRANSFORM_ROTATE: Short\n    val
SVG_TRANSFORM_SKEWX: Short\n    val SVG_TRANSFORM_SKEWY: Short\n    }\n}\n\n/**\n * Exposes
the JavaScript [SVGTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGTransformList) to Kotlin\n
*\n\npublic external abstract class SVGTransformList {\n    open val length: Int\n    open val numberOfItems: Int\n
fun clear()\n    fun initialize(newItem: SVGTransform): SVGTransform\n    fun insertItemBefore(newItem:
SVGTransform, index: Int): SVGTransform\n    fun replaceItem(newItem: SVGTransform, index: Int):
SVGTransform\n    fun removeItem(index: Int): SVGTransform\n    fun appendItem(newItem: SVGTransform):
SVGTransform\n    fun createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n    fun
consolidate(): SVGTransform?\n    fun getItem(index: Int):
SVGTransform\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun SVGTransformList.get(index:
Int): SVGTransform? = asDynamic()[index]\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun SVGTransformList.set(index:
Int, newItem: SVGTransform) { asDynamic()[index] = newItem }\n\n\n/**\n * Exposes the JavaScript
[SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to
Kotlin\n
*\n\npublic external abstract class SVGAnimatedTransformList {\n    open val baseVal:
SVGTransformList\n    open val animVal: SVGTransformList\n}\n\n\n/**\n * Exposes the JavaScript
[SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin\n
*\n\npublic external abstract class SVGPreserveAspectRatio {\n    open var align: Short\n    open var meetOrSlice:
Short\n\n    companion object {\n        val SVG_PRESERVEASPECTRATIO_UNKNOWN: Short\n        val
SVG_PRESERVEASPECTRATIO_NONE: Short\n        val SVG_PRESERVEASPECTRATIO_XMINYMIN:
Short\n        val SVG_PRESERVEASPECTRATIO_XMIDYMIN: Short\n        val
SVG_PRESERVEASPECTRATIO_XMAXYMIN: Short\n        val
SVG_PRESERVEASPECTRATIO_XMINYMID: Short\n        val
SVG_PRESERVEASPECTRATIO_XMIDYMID: Short\n        val
SVG_PRESERVEASPECTRATIO_XMAXYMID: Short\n        val
SVG_PRESERVEASPECTRATIO_XMINYMAX: Short\n        val
SVG_PRESERVEASPECTRATIO_XMIDYMAX: Short\n        val
SVG_PRESERVEASPECTRATIO_XMAXYMAX: Short\n        val SVG_MEETORSLICE_UNKNOWN: Short\n        val
SVG_MEETORSLICE_MEET: Short\n        val SVG_MEETORSLICE_SLICE: Short\n    }\n}\n\n\n/**\n *
Exposes the JavaScript
[SVGAnimatedPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspect
Ratio) to Kotlin\n
*\n\npublic external abstract class SVGAnimatedPreserveAspectRatio {\n    open val baseVal:
SVGPreserveAspectRatio\n    open val animVal: SVGPreserveAspectRatio\n}\n\n\n/**\n * Exposes the JavaScript
[SVGPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGPathElement) to Kotlin\n
*\n\npublic
external abstract class SVGPathElement : SVGGeometryElement {\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val
DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val
DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n\n/**\n * Exposes the JavaScript
[SVGRectElement](https://developer.mozilla.org/en/docs/Web/API/SVGRectElement) to Kotlin\n
*\n\npublic
external abstract class SVGRectElement : SVGGeometryElement {\n    open val x: SVGAnimatedLength\n    open
val y: SVGAnimatedLength\n    open val width: SVGAnimatedLength\n    open val height: SVGAnimatedLength\n

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open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGCircleElement](https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement) to Kotlin\n */\npublic
external abstract class SVGCircleElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n
open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n\n companion object {\n val
ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val
CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:
Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to Kotlin\n */\npublic
external abstract class SVGEllipseElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n
open val cy: SVGAnimatedLength\n open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin\n */\npublic
external abstract class SVGLineElement : SVGGeometryElement {\n open val x1: SVGAnimatedLength\n open
val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val y2: SVGAnimatedLength\n\n
companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val
TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:
Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val
COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n
val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin\n */\npublic
external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference {\n companion object {\n

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    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to Kotlin \n
*\npublic external interface SVGAnimatedPoints { \n    val points: SVGPointList \n    val animatedPoints:
SVGPointList \n} \n \n \n public external abstract class SVGPointList { \n    open val length: Int \n    open val
numberOfItems: Int \n    fun clear() \n    fun initialize(newItem: DOMPoint): DOMPoint \n    fun
insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint \n    fun replaceItem(newItem: DOMPoint, index:
Int): DOMPoint \n    fun removeItem(index: Int): DOMPoint \n    fun appendItem(newItem: DOMPoint):
DOMPoint \n    fun getItem(index: Int): DOMPoint \n} \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGPointList.get(index: Int):
DOMPoint? = asDynamic()[index] \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline operator fun SVGPointList.set(index: Int,
newItem: DOMPoint) { asDynamic()[index] = newItem } \n \n /** \n * Exposes the JavaScript
[SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to Kotlin \n
*\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints { \n
companion object { \n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to Kotlin \n
*\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints { \n
companion object { \n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    } \n} \n \n /** \n * Exposes the JavaScript
[SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin \n
*\npublic external abstract class SVGTextContentElement : SVGGraphicsElement { \n    open val textLength:
SVGAnimatedLength \n    open val lengthAdjust: SVGAnimatedEnumeration \n    fun getNumberOfChars(): Int \n
fun getComputedTextLength(): Float \n    fun getSubStringLength(charnum: Int, nchars: Int): Float \n    fun
getStartPositionOfChar(charnum: Int): DOMPoint \n    fun getEndPositionOfChar(charnum: Int): DOMPoint \n    fun
getExtentOfChar(charnum: Int): DOMRect \n    fun getRotationOfChar(charnum: Int): Float \n    fun

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getCharNumAtPosition(point: DOMPoint): Int\n fun selectSubString(charnum: Int, nchars: Int)\n\n companion
object {\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n
val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to
Kotlin\n */\n\npublic external abstract class SVGTextPositioningElement : SVGTextContentElement {\n open val x:
SVGAnimatedLengthList\n open val y: SVGAnimatedLengthList\n open val dx: SVGAnimatedLengthList\n
open val dy: SVGAnimatedLengthList\n open val rotate: SVGAnimatedNumberList\n\n companion object {\n
val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin\n */\n\npublic
external abstract class SVGTextElement : SVGTextPositioningElement {\n companion object {\n val
LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val
DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val
DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin\n */\n\npublic
external abstract class SVGTSpanElement : SVGTextPositioningElement {\n companion object {\n val
LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val
LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val
ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val
ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val
PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val
DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val

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DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript  
[SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin\n  
\*\npublic external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference {\n open  
val startOffset: SVGAnimatedLength\n open val method: SVGAnimatedEnumeration\n open val spacing:  
SVGAnimatedEnumeration\n\n companion object {\n val TEXTPATH\_METHODTYPE\_UNKNOWN:  
Short\n val TEXTPATH\_METHODTYPE\_ALIGN: Short\n val  
TEXTPATH\_METHODTYPE\_STRETCH: Short\n val TEXTPATH\_SPACINGTYPE\_UNKNOWN: Short\n  
val TEXTPATH\_SPACINGTYPE\_AUTO: Short\n val TEXTPATH\_SPACINGTYPE\_EXACT: Short\n  
val LENGTHADJUST\_UNKNOWN: Short\n val LENGTHADJUST\_SPACING: Short\n val  
LENGTHADJUST\_SPACINGANDGLYPHS: Short\n val ELEMENT\_NODE: Short\n val  
ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val  
ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val  
PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val  
DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript  
[SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin\n \*\npublic  
external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference,  
HTMLOrSVGImageElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open  
val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val preserveAspectRatio:  
SVGAnimatedPreserveAspectRatio\n open var crossOrigin: String?\n\n companion object {\n val  
ELEMENT\_NODE: Short\n val ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val  
CDATA\_SECTION\_NODE: Short\n val ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE:  
Short\n val PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val  
DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n  
val DOCUMENT\_POSITION\_CONTAINED\_BY: Short\n val  
DOCUMENT\_POSITION\_IMPLEMENTATION\_SPECIFIC: Short\n }n}\n\n/\*\*\n \* Exposes the JavaScript  
[SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to  
Kotlin\n \*\npublic external abstract class SVGForeignObjectElement : SVGGraphicsElement {\n open val x:  
SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val  
height: SVGAnimatedLength\n\n companion object {\n val ELEMENT\_NODE: Short\n val  
ATTRIBUTE\_NODE: Short\n val TEXT\_NODE: Short\n val CDATA\_SECTION\_NODE: Short\n val  
ENTITY\_REFERENCE\_NODE: Short\n val ENTITY\_NODE: Short\n val  
PROCESSING\_INSTRUCTION\_NODE: Short\n val COMMENT\_NODE: Short\n val  
DOCUMENT\_NODE: Short\n val DOCUMENT\_TYPE\_NODE: Short\n val  
DOCUMENT\_FRAGMENT\_NODE: Short\n val NOTATION\_NODE: Short\n val  
DOCUMENT\_POSITION\_DISCONNECTED: Short\n val DOCUMENT\_POSITION\_PRECEDING: Short\n  
val DOCUMENT\_POSITION\_FOLLOWING: Short\n val DOCUMENT\_POSITION\_CONTAINS: Short\n

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    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMarkerElement : SVGElement, SVGFitToViewBox {\n    open val refX: SVGAnimatedLength\n    open val
refY: SVGAnimatedLength\n    open val markerUnits: SVGAnimatedEnumeration\n    open val markerWidth:
SVGAnimatedLength\n    open val markerHeight: SVGAnimatedLength\n    open val orientType:
SVGAnimatedEnumeration\n    open val orientAngle: SVGAnimatedAngle\n    open var orient: String\n    fun
setOrientToAuto()\n    fun setOrientToAngle(angle: SVGAngle)\n}\n\ncompanion object {\n    val
SVG_MARKERUNITS_UNKNOWN: Short\n    val SVG_MARKERUNITS_USERSPACEONUSE: Short\n
val SVG_MARKERUNITS_STROKEWIDTH: Short\n    val SVG_MARKER_ORIENT_UNKNOWN: Short\n
val SVG_MARKER_ORIENT_AUTO: Short\n    val SVG_MARKER_ORIENT_ANGLE: Short\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGSolidcolorElement](https://developer.mozilla.org/en/docs/Web/API/SVGSolidcolorElement) to Kotlin\n
*\n\npublic external abstract class SVGSolidcolorElement : SVGElement {\n    companion object {\n    val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGGradientElement) to Kotlin\n
*\n\npublic external abstract class SVGGradientElement : SVGElement, SVGURIReference, SVGUnitTypes {\n
open val gradientUnits: SVGAnimatedEnumeration\n    open val gradientTransform: SVGAnimatedTransformList\n
open val spreadMethod: SVGAnimatedEnumeration\n}\n\ncompanion object {\n    val
SVG_SPREADMETHOD_UNKNOWN: Short\n    val SVG_SPREADMETHOD_PAD: Short\n    val
SVG_SPREADMETHOD_REFLECT: Short\n    val SVG_SPREADMETHOD_REPEAT: Short\n    val
SVG_UNIT_TYPE_UNKNOWN: Short\n    val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n    val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGLinearGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGLinearGradientElement) to

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Kotlin\n */\npublic external abstract class SVGLinearGradientElement : SVGGradientElement {\n    open val x1:
SVGAnimatedLength\n    open val y1: SVGAnimatedLength\n    open val x2: SVGAnimatedLength\n    open val
y2: SVGAnimatedLength\n\n    companion object {\n        val SVG_SPREADMETHOD_UNKNOWN: Short\n        val SVG_SPREADMETHOD_PAD: Short\n        val SVG_SPREADMETHOD_REFLECT: Short\n        val
SVG_SPREADMETHOD_REPEAT: Short\n        val SVG_UNIT_TYPE_UNKNOWN: Short\n        val
SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGRadialGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGRadialGradientElement) to
Kotlin\n */\npublic external abstract class SVGRadialGradientElement : SVGGradientElement {\n    open val cx:
SVGAnimatedLength\n    open val cy: SVGAnimatedLength\n    open val r: SVGAnimatedLength\n    open val fx:
SVGAnimatedLength\n    open val fy: SVGAnimatedLength\n    open val fr: SVGAnimatedLength\n\n    companion
object {\n        val SVG_SPREADMETHOD_UNKNOWN: Short\n        val SVG_SPREADMETHOD_PAD:
Short\n        val SVG_SPREADMETHOD_REFLECT: Short\n        val SVG_SPREADMETHOD_REPEAT:
Short\n        val SVG_UNIT_TYPE_UNKNOWN: Short\n        val SVG_UNIT_TYPE_USERSPACEONUSE:
Short\n        val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n        val ELEMENT_NODE: Short\n
        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMeshGradientElement : SVGGradientElement {\n    companion object {\n        val
SVG_SPREADMETHOD_UNKNOWN: Short\n        val SVG_SPREADMETHOD_PAD: Short\n        val
SVG_SPREADMETHOD_REFLECT: Short\n        val SVG_SPREADMETHOD_REPEAT: Short\n        val
SVG_UNIT_TYPE_UNKNOWN: Short\n        val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n        val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMeshrowElement : SVGElement {\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val

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ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGMeshpatchElement : SVGElement {\n    companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGStopElement](https://developer.mozilla.org/en/docs/Web/API/SVGStopElement) to Kotlin\n */\npublic
external abstract class SVGStopElement : SVGElement {\n    open val offset: SVGAnimatedNumber\n\n
companion object {\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val
TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE:
Short\n    val ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val
COMMENT_NODE: Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGPatternElement](https://developer.mozilla.org/en/docs/Web/API/SVGPatternElement) to Kotlin\n */\npublic
external abstract class SVGPatternElement : SVGElement, SVGFitToViewBox, SVGURIReference,
SVGUnitTypes {\n    open val patternUnits: SVGAnimatedEnumeration\n    open val patternContentUnits:
SVGAnimatedEnumeration\n    open val patternTransform: SVGAnimatedTransformList\n    open val x:
SVGAnimatedLength\n    open val y: SVGAnimatedLength\n    open val width: SVGAnimatedLength\n    open val
height: SVGAnimatedLength\n\n    companion object {\n    val SVG_UNIT_TYPE_UNKNOWN: Short\n
    val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n    val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n    val ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n
    val CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val
ENTITY_NODE: Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE:
Short\n    val DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGHatchElement : SVGElement {\n    companion object {\n    val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val

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PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external abstract class
SVGHatchpathElement : SVGElement {\n    companion object {\n        val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGCursorElement](https://developer.mozilla.org/en/docs/Web/API/SVGCursorElement) to Kotlin\n */\n\npublic
external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n    open val x:
SVGAnimatedLength\n    open val y: SVGAnimatedLength\n\n    companion object {\n        val
ELEMENT_NODE: Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val
CDATA_SECTION_NODE: Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE:
Short\n    val PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement) to Kotlin\n */\n\npublic
external abstract class SVGScriptElement : SVGElement, SVGURIReference, HTMLOrSVGScriptElement {\n
    open var type: String\n    open var crossOrigin: String?\n\n    companion object {\n        val ELEMENT_NODE:
Short\n    val ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE:
Short\n    val ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val
PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGAEElement](https://developer.mozilla.org/en/docs/Web/API/SVGAEElement) to Kotlin\n */\n\npublic external
abstract class SVGAEElement : SVGGraphicsElement, SVGURIReference {\n    open val target:
SVGAnimatedString\n    open val download: SVGAnimatedString\n    open val rel: SVGAnimatedString\n    open
val relList: SVGAnimatedString\n    open val hreflang: SVGAnimatedString\n    open val type:
SVGAnimatedString\n\n    companion object {\n        val ELEMENT_NODE: Short\n    val
ATTRIBUTE_NODE: Short\n    val TEXT_NODE: Short\n    val CDATA_SECTION_NODE: Short\n    val
ENTITY_REFERENCE_NODE: Short\n    val ENTITY_NODE: Short\n    val

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PROCESSING_INSTRUCTION_NODE: Short\n    val COMMENT_NODE: Short\n    val
DOCUMENT_NODE: Short\n    val DOCUMENT_TYPE_NODE: Short\n    val
DOCUMENT_FRAGMENT_NODE: Short\n    val NOTATION_NODE: Short\n    val
DOCUMENT_POSITION_DISCONNECTED: Short\n    val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n    val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n    val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin\n *\npublic
external abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {\n    companion
object {\n        val SVG_ZOOMANDPAN_UNKNOWN: Short\n        val SVG_ZOOMANDPAN_DISABLE:
Short\n        val SVG_ZOOMANDPAN_MAGNIFY: Short\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n"/*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-
GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.files\n\nimport
kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport
org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to
Kotlin\n *\npublic external open class Blob(blobParts: Array<dynamic> = definedExternally, options:
BlobPropertyBag = definedExternally) : MediaProvider, ImageBitmapSource {\n    open val size: Number\n    open
val type: String\n    open val isClosed: Boolean\n    fun slice(start: Int = definedExternally, end: Int =
definedExternally, contentType: String = definedExternally): Blob\n    fun close()\n}\n\npublic external interface
BlobPropertyBag {\n    var type: String? /* = \"\" */\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun BlobPropertyBag(type: String? = \"\"):
BlobPropertyBag {\n    val o = js(\"({})\")\n    o[\"type\"] = type\n    return o\n}\n\n/**\n * Exposes the JavaScript
[File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin\n *\npublic external open class File(fileBits:
Array<dynamic>, fileName: String, options: FilePropertyBag = definedExternally) : Blob {\n    open val name:
String\n    open val lastModified: Int\n}\n\npublic external interface FilePropertyBag : BlobPropertyBag {\n    var
lastModified: Int?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun FilePropertyBag(lastModified: Int? =
undefined, type: String? = \"\"): FilePropertyBag {\n    val o = js(\"({})\")\n    o[\"lastModified\"] = lastModified\n
o[\"type\"] = type\n    return o\n}\n\n/**\n * Exposes the JavaScript
[FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin\n *\npublic external abstract class
FileList : ItemArrayLike<File> {\n    override fun item(index: Int):
File?\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline operator fun FileList.get(index: Int): File?
= asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin\n *\npublic external open class
FileReader : EventTarget {\n    open val readyState: Short\n    open val result: dynamic\n    open val error:

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dynamic\n var onloadstart: ((ProgressEvent) -> dynamic)?\n var onprogress: ((ProgressEvent) -> dynamic)?\n
var onload: ((Event) -> dynamic)?\n var onabort: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n
var onloadend: ((Event) -> dynamic)?\n fun readAsArrayBuffer(blob: Blob)\n fun readAsBinaryString(blob:
Blob)\n fun readAsText(blob: Blob, label: String = definedExternally)\n fun readAsDataURL(blob: Blob)\n
fun abort()\n\n companion object {\n val EMPTY: Short\n val LOADING: Short\n val DONE:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin\n *\npublic external
open class FileReaderSync {\n fun readAsArrayBuffer(blob: Blob): ArrayBuffer\n fun readAsBinaryString(blob:
Blob): String\n fun readAsText(blob: Blob, label: String = definedExternally): String\n fun
readAsDataURL(blob: Blob): String\n}"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n See
github.com/kotlin/dukat for details\n\npackage org.w3c.notifications\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.events.*\nimport org.w3c.workers.*\n\n/**\n * Exposes the JavaScript
[Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n *\npublic external open
class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n var onclick:
((MouseEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n open val title: String\n open val dir:
NotificationDirection\n open val lang: String\n open val body: String\n open val tag: String\n open val
image: String\n open val icon: String\n open val badge: String\n open val sound: String\n open val vibrate:
Array<out Int>\n open val timestamp: Number\n open val renotify: Boolean\n open val silent: Boolean\n
open val noscreen: Boolean\n open val requireInteraction: Boolean\n open val sticky: Boolean\n open val data:
Any?\n open val actions: Array<out NotificationAction>\n fun close()\n\n companion object {\n val
permission: NotificationPermission\n val maxActions: Int\n fun requestPermission(deprecatedCallback:
(NotificationPermission) -> Unit = definedExternally): Promise<NotificationPermission>\n }\n}\n\npublic
external interface NotificationOptions {\n var dir: NotificationDirection? /* = NotificationDirection.AUTO */\n
get() = definedExternally\n set(value) = definedExternally\n var lang: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var body: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var tag: String? /* = "" */\n get() =
definedExternally\n set(value) = definedExternally\n var image: String?\n get() = definedExternally\n
set(value) = definedExternally\n var icon: String?\n get() = definedExternally\n set(value) =
definedExternally\n var badge: String?\n get() = definedExternally\n set(value) = definedExternally\n
var sound: String?\n get() = definedExternally\n set(value) = definedExternally\n var vibrate: dynamic\n
get() = definedExternally\n set(value) = definedExternally\n var timestamp: Number?\n get() =
definedExternally\n set(value) = definedExternally\n var renotify: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var silent: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var noscreen: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var requireInteraction: Boolean? /* = false */\n get()
= definedExternally\n set(value) = definedExternally\n var sticky: Boolean? /* = false */\n get() =
definedExternally\n set(value) = definedExternally\n var data: Any? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var actions: Array<NotificationAction>? /* = arrayOf()
*/\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationOptions(dir:
NotificationDirection? = NotificationDirection.AUTO, lang: String? = \"\", body: String? = \"\", tag: String? = \"\",
image: String? = undefined, icon: String? = undefined, badge: String? = undefined, sound: String? = undefined,
vibrate: dynamic = undefined, timestamp: Number? = undefined, renotify: Boolean? = false, silent: Boolean? =
false, noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky: Boolean? = false, data: Any? = null,
actions: Array<NotificationAction>? = arrayOf()): NotificationOptions {\n val o = js(\"({})\")\n o[\"dir\"] = dir\n}

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    o["lang"] = lang\n    o["body"] = body\n    o["tag"] = tag\n    o["image"] = image\n    o["icon"] = icon\n
    o["badge"] = badge\n    o["sound"] = sound\n    o["vibrate"] = vibrate\n    o["timestamp"] = timestamp\n
    o["renotify"] = renotify\n    o["silent"] = silent\n    o["noscreen"] = noscreen\n    o["requireInteraction"] =
    requireInteraction\n    o["sticky"] = sticky\n    o["data"] = data\n    o["actions"] = actions\n    return
    o\n}\n\npublic external interface NotificationAction {\n    var action: String?\n    var title: String?\n    var icon:
    String?\n    get() = definedExternally\n    set(value) =
    definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun NotificationAction(action: String?,
title: String?, icon: String? = undefined): NotificationAction {\n    val o = js("{}")\n    o["action"] = action\n
    o["title"] = title\n    o["icon"] = icon\n    return o\n}\n\npublic external interface GetNotificationOptions {\n    var
tag: String? /* = "" */\n    get() = definedExternally\n    set(value) =
    definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun GetNotificationOptions(tag: String? =
""): GetNotificationOptions {\n    val o = js("{}")\n    o["tag"] = tag\n    return o\n}\n\n/**\n * Exposes the
JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin\n
*/\n\npublic external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) :
ExtendableEvent {\n    open val notification: Notification\n    open val action: String\n\n    companion object {\n
val NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface NotificationEventInit : ExtendableEventInit {\n
var notification: Notification?\n    var action: String? /* = "" */\n    get() = definedExternally\n    set(value) =
    definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun NotificationEventInit(notification:
Notification?, action: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): NotificationEventInit {\n    val o = js("{}")\n    o["notification"] = notification\n    o["action"] =
action\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] = composed\n    return
o\n}\n\n/* please, don't implement this interface!
*/\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface NotificationPermission {\n    companion object\n}\n\npublic inline val
NotificationPermission.Companion.DEFAULT: NotificationPermission get() =
"default".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.DENIED: NotificationPermission get() =
"denied".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.GRANTED: NotificationPermission get() =
"granted".asDynamic().unsafeCast<NotificationPermission>()\n\n/* please, don't implement this interface!
*/\n\n@JsName("null")\n@Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\n\npublic external
interface NotificationDirection {\n    companion object\n}\n\npublic inline val
NotificationDirection.Companion.AUTO: NotificationDirection get() =
"auto".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val
NotificationDirection.Companion.LTR: NotificationDirection get() =
"ltr".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val
NotificationDirection.Companion.RTL: NotificationDirection get() =
"rtl".asDynamic().unsafeCast<NotificationDirection>()\n\n/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n//
See github.com/kotlin/dukat for details\n\npackage org.w3c.workers\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport org.w3c.fetch.*\nimport
org.w3c.notifications.*\n\n/**\n * Exposes the JavaScript
[ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to Kotlin\n */\n\npublic external

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abstract class ServiceWorker : EventTarget, AbstractWorker, UnionMessagePortOrServiceWorker,
UnionClientOrMessagePortOrServiceWorker {\n  open val scriptURL: String\n  open val state:
ServiceWorkerState\n  open var onstatechange: ((Event) -> dynamic)?\n  fun postMessage(message: Any?,
transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to
Kotlin\n\n */\n\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n  open val installing:
ServiceWorker?\n  open val waiting: ServiceWorker?\n  open val active: ServiceWorker?\n  open val scope:
String\n  open var onupdatefound: ((Event) -> dynamic)?\n  open val APISpace: dynamic\n  fun update():
Promise<Unit>\n  fun unregister(): Promise<Boolean>\n  fun showNotification(title: String, options:
NotificationOptions = definedExternally): Promise<Unit>\n  fun getNotifications(filter: GetNotificationOptions =
definedExternally): Promise<Array<Notification>>\n  fun methodName(): Promise<dynamic>\n}\n\n/**\n *
Exposes the JavaScript
[ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to Kotlin\n\n
*/\n\npublic external abstract class ServiceWorkerContainer : EventTarget {\n  open val controller:
ServiceWorker?\n  open val ready: Promise<ServiceWorkerRegistration>\n  open var oncontrollerchange:
((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n  fun register(scriptURL: String,
options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n  fun
getRegistration(clientURL: String = definedExternally): Promise<Any?>\n  fun getRegistrations():
Promise<Array<ServiceWorkerRegistration>>\n  fun startMessages()\n}\n\npublic external interface
RegistrationOptions {\n  var scope: String?\n  get() = definedExternally\n  set(value) = definedExternally\n
var type: WorkerType? /* = WorkerType.CLASSIC */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun RegistrationOptions(scope: String? =
undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n  val o = js("{}")\n  o["scope"] = scope\n  o["type"] = type\n  return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerMessageEvent) to
Kotlin\n\n */\n\npublic external open class ServiceWorkerMessageEvent(type: String, eventInitDict:
ServiceWorkerMessageEventInit = definedExternally) : Event {\n  open val data: Any?\n  open val origin:
String\n  open val lastEventId: String\n  open val source: UnionMessagePortOrServiceWorker?\n  open val
ports: Array<out MessagePort>?\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface ServiceWorkerMessageEventInit : EventInit {\n  var data: Any?\n  get() =
definedExternally\n  set(value) = definedExternally\n  var origin: String?\n  get() = definedExternally\n
set(value) = definedExternally\n  var lastEventId: String?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var source: UnionMessagePortOrServiceWorker?\n  get() = definedExternally\n
set(value) = definedExternally\n  var ports: Array<MessagePort>?\n  get() = definedExternally\n  set(value)
= definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n\n@kotlin.internal.InlineOnly\n\npublic inline fun ServiceWorkerMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles: Boolean? =
false, cancelable: Boolean? = false, composed: Boolean? = false): ServiceWorkerMessageEventInit {\n  val o =
js("{}")\n  o["data"] = data\n  o["origin"] = origin\n  o["lastEventId"] = lastEventId\n  o["source"] =
source\n  o["ports"] = ports\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to
Kotlin\n\n */\n\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n  open val clients:
Clients\n  open val registration: ServiceWorkerRegistration\n  open var oninstall: ((Event) -> dynamic)?\n  open
var onactivate: ((Event) -> dynamic)?\n  open var onfetch: ((FetchEvent) -> dynamic)?\n  open var

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onforeignfetch: ((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n  open var
onnotificationclick: ((NotificationEvent) -> dynamic)?\n  open var onnotificationclose: ((NotificationEvent) ->
dynamic)?\n  open var onfunctionalevent: ((Event) -> dynamic)?\n  fun skipWaiting():
Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[Client](https://developer.mozilla.org/en/docs/Web/API/Client) to Kotlin\n *\npublic external abstract class Client :
UnionClientOrMessagePortOrServiceWorker {\n  open val url: String\n  open val frameType: FrameType\n
open val id: String\n  fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n
* Exposes the JavaScript [WindowClient](https://developer.mozilla.org/en/docs/Web/API/WindowClient) to
Kotlin\n *\npublic external abstract class WindowClient : Client {\n  open val visibilityState: dynamic\n  open
val focused: Boolean\n  fun focus(): Promise<WindowClient>\n  fun navigate(url: String):
Promise<WindowClient>\n}\n\n/**\n * Exposes the JavaScript
[Clients](https://developer.mozilla.org/en/docs/Web/API/Clients) to Kotlin\n *\npublic external abstract class
Clients {\n  fun get(id: String): Promise<Any?>\n  fun matchAll(options: ClientQueryOptions =
definedExternally): Promise<Array<Client>>\n  fun openWindow(url: String): Promise<WindowClient?>\n  fun
claim(): Promise<Unit>\n}\n\npublic external interface ClientQueryOptions {\n  var includeUncontrolled:
Boolean? /* = false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var type:
ClientType? /* = ClientType.WINDOW */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun
ClientQueryOptions(includeUncontrolled: Boolean? = false, type: ClientType? = ClientType.WINDOW):
ClientQueryOptions {\n  val o = js("{}")\n  o["includeUncontrolled"] = includeUncontrolled\n  o["type"] =
type\n  return o\n}\n\n/**\n * Exposes the JavaScript
[ExtendableEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableEvent) to Kotlin\n *\npublic external
open class ExtendableEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : Event {\n  fun
waitUntil(f: Promise<Any?>)\n\n  companion object {\n    val NONE: Short\n    val CAPTURING_PHASE:
Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface
ExtendableEventInit : EventInit\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableEventInit(bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableEventInit {\n  val o =
js("{}")\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[InstallEvent](https://developer.mozilla.org/en/docs/Web/API/InstallEvent) to Kotlin\n *\npublic external open
class InstallEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : ExtendableEvent {\n  fun
registerForeignFetch(options: ForeignFetchOptions)\n\n  companion object {\n    val NONE: Short\n    val
CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface ForeignFetchOptions {\n  var scopes: Array<String>?\n  var origins:
Array<String>?\n}\n\n@Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER")\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchOptions(scopes:
Array<String>?, origins: Array<String>?): ForeignFetchOptions {\n  val o = js("{}")\n  o["scopes"] =
scopes\n  o["origins"] = origins\n  return o\n}\n\n/**\n * Exposes the JavaScript
[FetchEvent](https://developer.mozilla.org/en/docs/Web/API/FetchEvent) to Kotlin\n *\npublic external open class
FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {\n  open val request: Request\n  open
val clientId: String?\n  open val isReload: Boolean\n  fun respondWith(r: Promise<Response>)\n\n  companion
object {\n    val NONE: Short\n    val CAPTURING_PHASE: Short\n    val AT_TARGET: Short\n    val
BUBBLING_PHASE: Short\n  }\n}\n\npublic external interface FetchEventInit : ExtendableEventInit {\n  var
request: Request?\n  var clientId: String? /* = null */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var isReload: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@Suppress("INVISIBLE_REFERENCE",

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\ "INVISIBLE_MEMBER" ) \n @kotlin.internal.InlineOnly \n public inline fun FetchEventInit(request: Request?,
clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): FetchEventInit { \n val o = js(("{})") \n o["request"] = request \n o["clientId"]
= clientId \n o["isReload"] = isReload \n o["bubbles"] = bubbles \n o["cancelable"] = cancelable \n
o["composed"] = composed \n return o \n } \n \n public external open class ForeignFetchEvent(type: String,
eventInitDict: ForeignFetchEventInit) : ExtendableEvent { \n open val request: Request \n open val origin:
String \n fun respondWith(r: Promise<ForeignFetchResponse>) \n \n companion object { \n val NONE:
Short \n val CAPTURING_PHASE: Short \n val AT_TARGET: Short \n val BUBBLING_PHASE:
Short \n } \n } \n \n public external interface ForeignFetchEventInit : ExtendableEventInit { \n var request:
Request? \n var origin: String? /* = "null" */ \n get() = definedExternally \n set(value) =
definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun ForeignFetchEventInit(request:
Request?, origin: String? = "null", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): ForeignFetchEventInit { \n val o = js(("{})") \n o["request"] = request \n o["origin"] = origin \n
o["bubbles"] = bubbles \n o["cancelable"] = cancelable \n o["composed"] = composed \n return
o \n } \n \n public external interface ForeignFetchResponse { \n var response: Response? \n var origin: String? \n
get() = definedExternally \n set(value) = definedExternally \n var headers: Array<String>? \n get() =
definedExternally \n set(value) = definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun ForeignFetchResponse(response:
Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse { \n val o =
js(("{})") \n o["response"] = response \n o["origin"] = origin \n o["headers"] = headers \n return
o \n } \n \n /** \n * Exposes the JavaScript
[ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent) to Kotlin \n
*/ \n public external open class ExtendableMessageEvent(type: String, eventInitDict: ExtendableMessageEventInit =
definedExternally) : ExtendableEvent { \n open val data: Any? \n open val origin: String \n open val lastEventId:
String \n open val source: UnionClientOrMessagePortOrServiceWorker? \n open val ports: Array<out
MessagePort>? \n \n companion object { \n val NONE: Short \n val CAPTURING_PHASE: Short \n val
AT_TARGET: Short \n val BUBBLING_PHASE: Short \n } \n } \n \n public external interface
ExtendableMessageEventInit : ExtendableEventInit { \n var data: Any? \n get() = definedExternally \n
set(value) = definedExternally \n var origin: String? \n get() = definedExternally \n set(value) =
definedExternally \n var lastEventId: String? \n get() = definedExternally \n set(value) =
definedExternally \n var source: UnionClientOrMessagePortOrServiceWorker? \n get() = definedExternally \n
set(value) = definedExternally \n var ports: Array<MessagePort>? \n get() = definedExternally \n
set(value) = definedExternally \n } \n \n @Suppress("INVISIBLE_REFERENCE",
"INVISIBLE_MEMBER") \n @kotlin.internal.InlineOnly \n public inline fun ExtendableMessageEventInit(data:
Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source:
UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit { \n
val o = js(("{})") \n o["data"] = data \n o["origin"] = origin \n o["lastEventId"] = lastEventId \n
o["source"] = source \n o["ports"] = ports \n o["bubbles"] = bubbles \n o["cancelable"] = cancelable \n
o["composed"] = composed \n return o \n } \n \n /** \n * Exposes the JavaScript
[Cache](https://developer.mozilla.org/en/docs/Web/API/Cache) to Kotlin \n */ \n public external abstract class Cache
{ \n fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?> \n fun
matchAll(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):
Promise<Array<Response>> \n fun add(request: dynamic): Promise<Unit> \n fun addAll(requests:
Array<dynamic>): Promise<Unit> \n fun put(request: dynamic, response: Response): Promise<Unit> \n fun
delete(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Boolean> \n fun
keys(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally):

```

```

Promise<Array<Request>>\n}\n\npublic external interface CacheQueryOptions {\n    var ignoreSearch: Boolean? /*
= false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var ignoreMethod: Boolean? /* =
false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var ignoreVary: Boolean? /* =
false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var cacheName: String?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CacheQueryOptions(ignoreSearch:
Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? = false, cacheName: String? = undefined):
CacheQueryOptions {\n    val o = js(\"({})\")\n    o[\"ignoreSearch\"] = ignoreSearch\n    o[\"ignoreMethod\"] =
ignoreMethod\n    o[\"ignoreVary\"] = ignoreVary\n    o[\"cacheName\"] = cacheName\n    return o\n}\n\npublic
external interface CacheBatchOperation {\n    var type: String?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var request: Request?\n        get() = definedExternally\n        set(value) = definedExternally\n
var response: Response?\n        get() = definedExternally\n        set(value) = definedExternally\n    var options:
CacheQueryOptions?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@Suppress(\"INVISIBLE_REFERENCE\",
\"INVISIBLE_MEMBER\")\n@kotlin.internal.InlineOnly\npublic inline fun CacheBatchOperation(type: String? =
undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? =
undefined): CacheBatchOperation {\n    val o = js(\"({})\")\n    o[\"type\"] = type\n    o[\"request\"] = request\n
o[\"response\"] = response\n    o[\"options\"] = options\n    return o\n}\n\n/*\n * Exposes the JavaScript
[CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin\n */\npublic external
abstract class CacheStorage {\n    fun match(request: dynamic, options: CacheQueryOptions = definedExternally):
Promise<Any?>\n    fun has(cacheName: String): Promise<Boolean>\n    fun open(cacheName: String):
Promise<Cache>\n    fun delete(cacheName: String): Promise<Boolean>\n    fun keys():
Promise<Array<String>>\n}\n\npublic external open class FunctionalEvent : ExtendableEvent {\n    companion
object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface UnionMessagePortOrServiceWorker\n\npublic
external interface UnionClientOrMessagePortOrServiceWorker\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ServiceWorkerState {\n    companion object\n}\n\npublic inline val
ServiceWorkerState.Companion.INSTALLING: ServiceWorkerState get() =
\"installing\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState get() =
\"installed\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState get() =
\"activating\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState get() =
\"activated\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val
ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() =
\"redundant\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface FrameType {\n    companion object\n}\n\npublic inline val FrameType.Companion.AUXILIARY:
FrameType get() = \"auxiliary\".asDynamic().unsafeCast<FrameType>()\n\npublic inline val
FrameType.Companion.TOP_LEVEL: FrameType get() = \"top-
level\".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NESTED: FrameType
get() = \"nested\".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NONE:
FrameType get() = \"none\".asDynamic().unsafeCast<FrameType>()\n\n/* please, don't implement this interface!
*/\n@JsName(\"null\")\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external
interface ClientType {\n    companion object\n}\n\npublic inline val ClientType.Companion.WINDOW: ClientType
get() = \"window\".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.WORKER:

```

```

ClientType get() = `worker`.asDynamic().unsafeCast<ClientType>()\n\npublic inline val
ClientType.Companion.SHAREDWORKER: ClientType get() =
`sharedworker`.asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.ALL:
ClientType get() = `all`.asDynamic().unsafeCast<ClientType>()"/*\n * Copyright 2010-2021 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n See github.com/kotlin/dukat for details\n\npackage org.w3c.xhr\n\nimport kotlin.js.*\nimport
org.khronos.webgl.*\nimport org.w3c.dom.*\nimport org.w3c.dom.events.*\nimport org.w3c.files.*\n\n/**\n *
Exposes the JavaScript
[XMLHttpRequestEventTarget](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequestEventTarget) to
Kotlin\n */\n\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n    open var onloadstart:
((ProgressEvent) -> dynamic)?\n    open var onprogress: ((ProgressEvent) -> dynamic)?\n    open var onabort:
((Event) -> dynamic)?\n    open var onerror: ((Event) -> dynamic)?\n    open var onload: ((Event) -> dynamic)?\n
open var ontimeout: ((Event) -> dynamic)?\n    open var onloadend: ((Event) -> dynamic)?\n}\n\npublic external
abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget\n\n/**\n * Exposes the JavaScript
[XMLHttpRequest](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequest) to Kotlin\n */\n\npublic
external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n    var onreadystatechange: ((Event) ->
dynamic)?\n    open val readyState: Short\n    var timeout: Int\n    var withCredentials: Boolean\n    open val upload:
XMLHttpRequestUpload\n    open val responseURL: String\n    open val status: Short\n    open val statusText:
String\n    var responseType: XMLHttpRequestResponseType\n    open val response: Any?\n    open val
responseText: String\n    open val responseXML: Document?\n    fun open(method: String, url: String)\n    fun
open(method: String, url: String, async: Boolean, username: String? = definedExternally, password: String? =
definedExternally)\n    fun setRequestHeader(name: String, value: String)\n    fun send(body: dynamic =
definedExternally)\n    fun abort()\n    fun getResponseHeader(name: String): String?\n    fun
getAllResponseHeaders(): String\n    fun overrideMimeType(mime: String)\n\n    companion object {\n        val
UNSENT: Short\n        val OPENED: Short\n        val HEADERS_RECEIVED: Short\n        val LOADING:
Short\n        val DONE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[FormData](https://developer.mozilla.org/en/docs/Web/API/FormData) to Kotlin\n */\n\npublic external open class
FormData(form: HTMLFormElement = definedExternally) {\n    fun append(name: String, value: String)\n    fun
append(name: String, value: Blob, filename: String = definedExternally)\n    fun delete(name: String)\n    fun
get(name: String): dynamic\n    fun getAll(name: String): Array<dynamic>\n    fun has(name: String): Boolean\n
fun set(name: String, value: String)\n    fun set(name: String, value: Blob, filename: String =
definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[ProgressEvent](https://developer.mozilla.org/en/docs/Web/API/ProgressEvent) to Kotlin\n */\n\npublic external open
class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {\n    open val
lengthComputable: Boolean\n    open val loaded: Number\n    open val total: Number\n\n    companion object {\n
        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n\n    public external interface ProgressEventInit : EventInit {\n        var
lengthComputable: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n
        var loaded: Number? /* = 0 */\n        get() = definedExternally\n        set(value) = definedExternally\n
        var total:
Number? /* = 0 */\n        get() = definedExternally\n        set(value) =
definedExternally\n    }\n\n    @Suppress(`INVISIBLE_REFERENCE`,
`INVISIBLE_MEMBER`)\n    @kotlin.internal.InlineOnly\n    public inline fun ProgressEventInit(lengthComputable:
Boolean? = false, loaded: Number? = 0, total: Number? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): ProgressEventInit {\n        val o = js(`({})`)\n        o[\"lengthComputable\"] =
lengthComputable\n        o[\"loaded\"] = loaded\n        o[\"total\"] = total\n        o[\"bubbles\"] = bubbles\n
        o[\"cancelable\"] = cancelable\n        o[\"composed\"] = composed\n        return o\n    }\n\n    /* please, don't implement this
interface! */\n    @JsName(`null`)\n    @Suppress(`NESTED_CLASS_IN_EXTERNAL_INTERFACE`)\n    public

```

```

external interface XMLHttpRequestResponseType {
    companion object
}

public inline val XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() =
    "".asDynamic().unsafeCast<XMLHttpRequestResponseType>()

public inline val XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() =
    "arraybuffer".asDynamic().unsafeCast<XMLHttpRequestResponseType>()

public inline val XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() =
    "blob".asDynamic().unsafeCast<XMLHttpRequestResponseType>()

public inline val XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() =
    "document".asDynamic().unsafeCast<XMLHttpRequestResponseType>()

public inline val XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType get() =
    "json".asDynamic().unsafeCast<XMLHttpRequestResponseType>()

public inline val XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() =
    "text".asDynamic().unsafeCast<XMLHttpRequestResponseType>()
}

/*
 * Copyright 2010-2018 JetBrains s.r.o.
 * and Kotlin Programming Language contributors.
 * Use of this source code is governed by the Apache 2.0 license
 * that can be found in the license/LICENSE.txt file.
 */
package kotlin

import kotlin.annotation.AnnotationRetention.BINARY
import kotlin.annotation.AnnotationRetention.SOURCE
import kotlin.annotation.AnnotationTarget.*
import kotlin.internal.RequireKotlin
import kotlin.internal.RequireKotlinVersionKind
import kotlin.reflect.KClass

/**
 * Signals that the annotated annotation class is a marker of an experimental API.
 * Any declaration annotated with that marker is considered an experimental declaration
 * and its call sites should accept the experimental aspect of it either by using [UseExperimental],
 * or by being annotated with that marker themselves, effectively causing further propagation
 * of that experimental aspect.
 * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].
 */
@Target(ANNOTATION_CLASS)
@Retention(BINARY)
@SinceKotlin("1.2")
@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")
@Deprecated("Please use RequiresOptIn instead.")
public annotation class Experimental(val level: Level = Level.ERROR) {
    /**
     * Severity of the diagnostic that should be reported on usages of experimental API which did not explicitly accept the experimental aspect
     * of that API either by using [UseExperimental] or by being annotated with the corresponding marker annotation.
     */
    public enum class Level {
        /**
         * Specifies that a warning should be reported on incorrect usages of this experimental API.
         */
        WARNING,
        /**
         * Specifies that an error should be reported on incorrect usages of this experimental API.
         */
        ERROR,
    }
}

/**
 * Allows to use experimental API denoted by the given markers in the annotated file, declaration, or expression.
 * If a declaration is annotated with [UseExperimental], its usages are not required to opt-in to that experimental API.
 * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].
 */
@Target(CLASS, PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE, TYPEALIAS)
@Retention(SOURCE)
@SinceKotlin("1.2")
@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)
@DeprecatedSinceKotlin(warningSince = "1.4", errorSince = "1.6")
@Deprecated("Please use OptIn instead.", ReplaceWith("OptIn(*markerClass)", "kotlin.OptIn"))
public annotation class UseExperimental(val vararg val markerClass: KClass<out Annotation>)

/**
 * internal annotation class WasExperimental(val vararg val markerClass: KClass<out Annotation>)
 */
}

/*
 * This annotation marks the standard library API that is considered experimental and is not subject to the
 * [general compatibility guarantees](https://kotlinlang.org/docs/reference/evolution/components-stability.html) given for the standard library:
 * the behavior of such API may be changed or the API may be removed completely in any further release.
 * Beware using the annotated API especially if you're developing a library, since your library
 */

```



might become binary incompatible with the future versions of the standard library. Any usage of a declaration annotated with `@ExperimentalStdlibApi` must be accepted either by annotating that usage with the `[OptIn]` annotation, e.g. `@OptIn(ExperimentalStdlibApi::class)` or by using the compiler argument `-opt-in=kotlin.ExperimentalStdlibApi`.

```

@RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n@Retention(AnnotationRetention.BINARY)\n@Target(\n  CLASS,\n  ANNOTATION_CLASS,\n  PROPERTY,\n  FIELD,\n  LOCAL_VARIABLE,\n  VALUE_PARAMETER,\n  CONSTRUCTOR,\n  FUNCTION,\n  PROPERTY_GETTER,\n  PROPERTY_SETTER,\n  TYPEALIAS)\n\n@MustBeDocumented\n@SinceKotlin("1.3")\npublic annotation class
ExperimentalStdlibApi", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport
kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Allows to infer generic type arguments of a function
from the calls in the annotated function parameter of that function.\n *\n * When this annotation is placed on a
generic function parameter of a function,\n * it enables to infer the type arguments of that generic function from the
lambda body passed to that parameter.\n *\n * The calls that affect inference are either members of the receiver type
of an annotated function parameter or\n * extensions for that type. The extensions must be themselves annotated
with @BuilderInference.\n *\n * Example: we declare\n * ```\n * fun <T> sequence(@BuilderInference block:
suspend SequenceScope<T>().->Unit): Sequence<T>\n * ```\n * and use it like\n * ```\n * val result = sequence {
yield("result") }\n * ```\n * Here the type argument of the resulting sequence is inferred to String from\n * the
argument of the [SequenceScope.yield] function, that is called inside the lambda passed to [sequence].\n *\n * Note:
this annotation is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n
*/\n\n@Target(VALUE_PARAMETER, FUNCTION,
PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@ExperimentalTypeInference\npublic annotation class BuilderInference\n\n/**\n * Enables overload selection based on the type of the value
returned from lambda argument.\n *\n * When two or more function overloads have otherwise the same parameter
lists that differ only in the return type\n * of a functional parameter, this annotation enables overload selection by the
type of the value returned from\n * the lambda function passed to this functional parameter.\n *\n * Example:\n *
```
\n * @OverloadResolutionByLambdaReturnType\n * fun create(intProducer: () -> Int): Int\n * fun
create(doubleProducer: () -> Double): Double\n * val newValue = create { 3.14 }\n * ```\n * The annotation
being applied to one of overloads allows to resolve this ambiguity by analyzing what value is returned\n * from the
lambda function.\n *\n * This annotation is also used to discriminate the annotated overloads in case if overload
selection still cannot\n * choose one of them even taking in account the result of lambda parameter analysis. In that
case a warning is reported.\n *\n * Note: this annotation is experimental, see [ExperimentalTypeInference] on how
to opt-in for it.\n
*/\n\n@Target(FUNCTION)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.4")\n@Experimental
TypeInference\npublic annotation class OverloadResolutionByLambdaReturnType", /*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * The experimental multiplatform support API marker.\n *\n * Any usage of a declaration annotated with @ExperimentalMultiplatform must be accepted either by annotating that usage with the [OptIn] annotation, e.g. @OptIn(ExperimentalMultiplatform::class) or by using the compiler argument -opt-in=kotlin.ExperimentalMultiplatform.\n
*/\n\n@RequiresOptIn\n@MustBeDocumented\n@Target(\n  CLASS,\n  ANNOTATION_CLASS,\n  PROPERTY,\n  FIELD,\n  LOCAL_VARIABLE,\n  VALUE_PARAMETER,\n  CONSTRUCTOR,\n  FUNCTION,\n  PROPERTY_GETTER,\n  PROPERTY_SETTER,\n  TYPEALIAS)\n\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\n\npublic annotation class ExperimentalMultiplatform\n\n/**\n

```

\* Marks an expected annotation class that it isn't required to have actual counterparts in all platforms.\n \* This annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as `optional`.\n \* Optional expected class is allowed to have no corresponding actual class on the platform. Optional annotations can only be used\n \* to annotate something, not as types in signatures. If an optional annotation has no corresponding actual class on a platform,\n \* the annotation entries where it's used are simply erased when compiling code on that platform.\n \* Note: this annotation is experimental, see [ExperimentalMultiplatform] on how to opt-in for it.\n

```
*/\n@Target(ANNOTATION_CLASS)\n@Retention(AnnotationRetention.BINARY)\n@ExperimentalMultiplatform\n@RequireKotlin("1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic\nannotation class OptionalExpectation\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
```

```
kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport\nkotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport\nkotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated\n * annotation class is a marker of an API that requires an explicit opt-in.\n * Call sites of any declaration annotated\n * with that marker should opt in to the API either by using [OptIn],\n * or by being annotated with that marker\n * themselves, effectively causing further propagation of the opt-in requirement.\n * This class requires opt-in itself\n * and can only be used with the compiler argument ` -opt-in=kotlin.RequiresOptIn`.\n * @property message\n * message to be reported on usages of API without an explicit opt-in, or empty string for the default message.\n *
```

```
The default message is: `This declaration is experimental and its usage should be marked with 'Marker'\n * or '@OptIn(Marker::class)`, where `Marker` is the opt-in requirement marker.\n * @property level specifies\n * how usages of API without an explicit opt-in are reported in code.\n
```

```
*/\n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin("1.3")\n@RequireKotlin("1.3.70\n", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class RequiresOptIn(\n * val message: String = "",\n * val level: Level = Level.ERROR)\n {\n * /**\n * Severity of the diagnostic that\n * should be reported on usages which did not explicitly opt into\n * the API either by using [OptIn] or by being\n * annotated with the corresponding marker annotation.\n * public enum class Level {\n * /** Specifies that a\n * warning should be reported on incorrect usages of this API. *\n * WARNING,\n * /** Specifies that an error\n * should be reported on incorrect usages of this API. *\n * ERROR,\n * }\n\n/**\n * Allows to use the API\n * denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with\n * [OptIn], its usages are **not** required to opt in to that API.\n * This class requires opt-in itself and can only be\n * used with the compiler argument ` -opt-in=kotlin.RequiresOptIn`.\n */\n@Target(\n * CLASS, PROPERTY,\n * LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER,\n * PROPERTY_SETTER, EXPRESSION, FILE,
```

```
TYPEALIAS)\n\n@Retention(SOURCE)\n@SinceKotlin("1.3")\n@RequireKotlin("1.3.70", versionKind =\n * RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class OptIn(\n * vararg val markerClass:\n * KClass<out Annotation>)\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language\n * contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the\n * license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport kotlin.js.JsName\n\n/**\n * Provides a skeletal\n * implementation of the read-only [Collection] interface.\n * @param E the type of elements contained in the\n * collection. The collection is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class\n * AbstractCollection<out E> protected constructor() : Collection<E> {\n * abstract override val size: Int\n * abstract\n * override fun iterator(): Iterator<E>\n * override fun contains(element: @UnsafeVariance E): Boolean = any { it\n * == element }\n * override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean =\n * elements.all { contains(it) } // use when js will support bound refs: elements.all(this::contains)\n * override fun\n * isEmpty(): Boolean = size == 0\n * override fun toString(): String = joinToString(", ", "[", "]")\n * {\n * if (it\n * === this) "(this Collection)" else it.toString()\n * }\n\n/**\n * Returns new array of type `Array<Any?>` with
```

```

the elements of this collection.\n    *\n    @JsName("toArray")\n    protected open fun toArray(): Array<Any?> =
copyToArrayImpl(this)\n\n    /**\n     * Fills the provided [array] or creates new array of the same type\n     * and
fills it with the elements of this collection.\n    *\n    protected open fun <T> toArray(array: Array<T>): Array<T>
= copyToArrayImpl(this, array)\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nprivate enum class State {\n    Ready,\n    NotReady,\n    Done,\n    Failed\n}\n\n/**\n * A base class to simplify implementing iterators so that
implementations only have to implement [computeNext]\n * to implement the iterator, calling [done] when the
iteration is complete.\n */\npublic abstract class AbstractIterator<T> : Iterator<T> {\n    private var state =
State.NotReady\n    private var nextValue: T? = null\n\n    override fun hasNext(): Boolean {\n        require(state !=
State.Failed)\n        return when (state) {\n            State.Done -> false\n            State.Ready -> true\n            else ->
tryToComputeNext()\n        }\n    }\n\n    override fun next(): T {\n        if (!hasNext()) throw
NoSuchElementException()\n        state = State.NotReady\n        @Suppress("UNCHECKED_CAST")\n        return nextValue as T\n    }\n\n    private fun tryToComputeNext(): Boolean {\n        state = State.Failed\n        computeNext()\n        return state == State.Ready\n    }\n\n    /**\n     * Computes the next item in the iterator.\n
*\n     * This callback method should call one of these two methods:\n     * * [setNext] with the next value of
the iteration\n     * * [done] to indicate there are no more elements\n     * * Failure to call either method will
result in the iteration terminating with a failed state\n     */\n    abstract protected fun computeNext(): Unit\n\n    /**\n     * Sets the next value in the iteration, called from the [computeNext] function\n     */\n    protected fun
setNext(value: T): Unit {\n        nextValue = value\n        state = State.Ready\n    }\n\n    /**\n     * Sets the state to
done so that the iteration terminates.\n     */\n    protected fun done() {\n        state = State.Done\n    }\n\n", "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on
GWT AbstractList\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal
implementation of the read-only [List] interface.\n */\n * This class is intended to help implementing read-only lists
so it doesn't support concurrent modification tracking.\n */\n * @param E the type of elements contained in the list.
The list is covariant in its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class AbstractList<out E>\nprotected constructor() : AbstractCollection<E>(), List<E> {\n    abstract override val size: Int\n    abstract override
fun get(index: Int): E\n\n    override fun iterator(): Iterator<E> = IteratorImpl()\n\n    override fun indexOf(element:
@UnsafeVariance E): Int = indexOfFirst { it == element }\n\n    override fun lastIndexOf(element:
@UnsafeVariance E): Int = indexOfLast { it == element }\n\n    override fun listIterator(): ListIterator<E> =
ListIteratorImpl(0)\n\n    override fun listIterator(index: Int): ListIterator<E> = ListIteratorImpl(index)\n\n    override fun subList(fromIndex: Int, toIndex: Int): List<E> = SubList(this, fromIndex, toIndex)\n\n    private class
SubList<out E>(private val list: AbstractList<E>, private val fromIndex: Int, toIndex: Int) : AbstractList<E>(),
RandomAccess {\n        private var _size: Int = 0\n\n        init {\n            checkRangeIndexes(fromIndex, toIndex,
list.size)\n            this._size = toIndex - fromIndex\n        }\n\n        override fun get(index: Int): E {\n            checkElementIndex(index, _size)\n            return list[fromIndex + index]\n        }\n\n        override val size: Int
get() = _size\n    }\n\n    /**\n     * Compares this list with other list instance with the ordered structural equality.\n
*\n     * @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same
order.\n     */\n    override fun equals(other: Any?): Boolean {\n        if (other === this) return true\n        if (other !is
List<*>) return false\n        return orderedEquals(this, other)\n    }\n\n    /**\n     * Returns the hash code value for
this list.\n     */\n    override fun hashCode(): Int = orderedHashCode(this)\n\n    private open inner class IteratorImpl
: Iterator<E> {\n        /** the index of the item that will be returned on the next call to [next]`()\n     */\n        protected
var index = 0\n\n        override fun hasNext(): Boolean = index < size\n\n        override fun next(): E {\n            if
(!hasNext()) throw NoSuchElementException()\n            return get(index++)\n        }\n    }\n\n    /**\n     *
Implementation of [ListIterator] for abstract lists.\n     */\n    private open inner class ListIteratorImpl(index: Int) :
IteratorImpl(), ListIterator<E> {\n        init {\n            checkPositionIndex(index, this@AbstractList.size)\n            this.index = index\n        }\n\n        override fun hasPrevious(): Boolean = index > 0\n\n        override fun

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nextIndex(): Int = index\n\n    override fun previous(): E {\n        if (!hasPrevious()) throw
NoSuchElementException()\n        return get(--index)\n    }\n\n    override fun previousIndex(): Int = index -
1\n    }\n\n    internal companion object {\n        internal fun checkElementIndex(index: Int, size: Int) {\n            if
(index < 0 || index >= size) {\n                throw IndexOutOfBoundsException("index: $index, size: $size")\n            }\n        }\n\n        internal fun checkPositionIndex(index: Int, size: Int) {\n            if (index < 0 || index > size) {\n                throw IndexOutOfBoundsException("index: $index, size: $size")\n            }\n        }\n\n        internal fun checkRangeIndexes(fromIndex: Int, toIndex: Int, size: Int) {\n            if (fromIndex < 0 || toIndex > size) {\n                throw IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex, size: $size")\n            }\n            if (fromIndex > toIndex) {\n                throw IllegalArgumentException("fromIndex: $fromIndex > toIndex:
$toIndex")\n            }\n        }\n\n        internal fun checkBoundsIndexes(startIndex: Int, endIndex: Int, size: Int) {\n            if (startIndex < 0 || endIndex > size) {\n                throw IndexOutOfBoundsException("startIndex:
$startIndex, endIndex: $endIndex, size: $size")\n            }\n            if (startIndex > endIndex) {\n                throw
IllegalArgumentException("startIndex: $startIndex > endIndex: $endIndex")\n            }\n        }\n\n        internal
fun orderedHashCode(c: Collection<*>): Int {\n            var hashCode = 1\n            for (e in c) {\n                hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n            }\n            return hashCode\n        }\n\n        internal fun
orderedEquals(c: Collection<*>, other: Collection<*>): Boolean {\n            if (c.size != other.size) return false\n            val otherIterator = other.iterator()\n            for (elem in c) {\n                val elemOther = otherIterator.next()\n                if (elem != elemOther) {\n                    return false\n                }\n            }\n            return true\n        }\n    }\n}

/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n
/*\n * Based on GWT AbstractMap\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides
a skeletal implementation of the read-only [Map] interface.\n * The implementor is required to implement
[entries] property, which should return read-only set of map entries.\n * @param K the type of map keys. The
map is invariant in its key type.\n * @param V the type of map values. The map is covariant in its value type.\n
*/\n\n@SinceKotlin("1.1")\npublic abstract class AbstractMap<K, out V> protected constructor() : Map<K, V>
{\n\n    override fun containsKey(key: K): Boolean {\n        return implFindEntry(key) != null\n    }\n\n    override
fun containsValue(value: @UnsafeVariance V): Boolean = entries.any { it.value == value }\n\n    internal fun
containsEntry(entry: Map.Entry<*, *>): Boolean {\n        // since entry comes from @UnsafeVariance parameters it
can be virtually anything\n        if (entry !is Map.Entry<*, *>) return false\n        val key = entry.key\n        val value
= entry.value\n        val ourValue = get(key)\n        if (value != ourValue) {\n            return false\n        }\n        //
Perhaps it was null and we don't contain the key?\n        if (ourValue == null && !containsKey(key)) {\n            return false\n        }\n        return true\n    }\n\n    /**\n     * Compares this map with other instance with the
ordered structural equality.\n     * @return true, if [other] instance is a [Map] of the same size, all entries of
which are contained in the [entries] set of this map.\n     */\n\n    override fun equals(other: Any?): Boolean {\n        if
(other === this) return true\n        if (other !is Map<*, *>) return false\n        if (size != other.size) return false\n        return other.entries.all { containsEntry(it) }\n    }\n\n    override operator fun get(key: K): V? =
implFindEntry(key)?.value\n\n    /**\n     * Returns the hash code value for this map.\n     * It is the same as
the hashCode of [entries] set.\n     */\n\n    override fun hashCode(): Int = entries.hashCode()\n\n    override fun
isEmpty(): Boolean = size == 0\n\n    override val size: Int get() = entries.size\n\n    /**\n     * Returns a read-only
[Set] of all keys in this map.\n     * Accessing this property first time creates a keys view from [entries].\n     *
All subsequent accesses just return the created instance.\n     */\n\n    override val keys: Set<K>\n        get() {\n            if (_keys == null) {\n                _keys = object : AbstractSet<K>() {\n                    override operator fun
contains(element: K): Boolean = containsKey(element)\n                    override operator fun iterator(): Iterator<K>
{\n                        val entryIterator = entries.iterator()\n                        return object : Iterator<K> {\n                            override fun hasNext(): Boolean = entryIterator.hasNext()\n                            override fun next(): K =
entryIterator.next().key\n                        }\n                    }\n                }\n            }\n            return _keys!!\n        }\n\n    @kotlin.jvm.Volatile\n    private var _keys: Set<K>? = null\n\n    override fun toString(): String = entries.joinToString(", ", "\n", "\n") {\n

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toString(it) }\n\n private fun toString(entry: Map.Entry<K, V>): String = toString(entry.key) + \"=\" +
toString(entry.value)\n\n private fun toString(o: Any?): String = if (o === this) \"(this Map)\" else o.toString()\n\n
/**\n * Returns a read-only [Collection] of all values in this map.\n * \n * Accessing this property first time
creates a values view from [entries].\n * All subsequent accesses just return the created instance.\n * \n
override val values: Collection<V>\n get() {\n if (_values == null) {\n _values = object :
AbstractCollection<V>() {\n override operator fun contains(element: @UnsafeVariance V): Boolean =
containsValue(element)\n\n override operator fun iterator(): Iterator<V> {\n val
entryIterator = entries.iterator()\n return object : Iterator<V> {\n override fun
hasNext(): Boolean = entryIterator.hasNext()\n\n override fun next(): V = entryIterator.next().value\n
}\n\n }\n\n override val size: Int get() = this@AbstractMap.size\n\n }\n
}\n\n return _values!!\n\n }\n\n @kotlin.jvm.Volatile\n private var _values: Collection<V>? = null\n\n
private fun implFindEntry(key: K): Map.Entry<K, V>? = entries.firstOrNull { it.key == key }\n\n internal
companion object {\n\n internal fun entryHashCode(e: Map.Entry<*, *>): Int = with(e) { (key?.hashCode() ?:
0) xor (value?.hashCode() ?: 0) }\n\n internal fun entryToString(e: Map.Entry<*, *>): String = with(e) {
\"$key=$value\" }\n\n internal fun entryEquals(e: Map.Entry<*, *>, other: Any?): Boolean {\n if (other !is
Map.Entry<*, *>) return false\n return e.key == other.key && e.value == other.value\n }\n
}\n}\n\n\"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Set] interface.\n * \n
This class is intended to help implementing read-only sets so it doesn't support concurrent modification tracking.\n
*\n * @param E the type of elements contained in the set. The set is covariant in its element type.\n
*\n\n@SinceKotlin(\"1.1\")\npublic abstract class AbstractSet<out E> protected constructor() :
AbstractCollection<E>(), Set<E> {\n\n /**\n * Compares this set with other set instance with the unordered
structural equality.\n * \n * @return true, if [other] instance is a [Set] of the same size, all elements of which are
contained in this set.\n * \n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n
if (other !is Set<*>) return false\n return setEquals(this, other)\n }\n\n /**\n * Returns the hash code
value for this set.\n * \n override fun hashCode(): Int = unorderedHashCode(this)\n\n internal companion
object {\n\n internal fun unorderedHashCode(c: Collection<*>): Int {\n var hashCode = 0\n for
(element in c) {\n hashCode += (element?.hashCode() ?: 0)\n }\n return hashCode\n
}\n\n internal fun setEquals(c: Set<*>, other: Set<*>): Boolean {\n if (c.size != other.size) return false\n
return c.containsAll(other)\n }\n }\n}\n\n\"/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\n\npackage kotlin.collections\n\n/**\n * Resizable-array implementation
of the deque data structure.\n * \n * The name deque is short for \"double ended queue\" and is usually pronounced
\"deck\".\n * \n * The collection provide methods for convenient access to the both ends.\n * It also implements
[MutableList] interface and supports efficient get/set operations by index.\n
*\n\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic class ArrayDeque<E> :
AbstractMutableList<E> {\n\n private var head: Int = 0\n private var elementData: Array<Any?>\n\n override
var size: Int = 0\n private set\n\n /**\n * Constructs an empty deque with specified [initialCapacity], or
throws [IllegalArgumentException] if [initialCapacity] is negative.\n * \n public constructor(initialCapacity:
Int) {\n elementData = when {\n initialCapacity == 0 -> emptyElementData\n initialCapacity > 0 -
> arrayOfNulls(initialCapacity)\n else -> throw IllegalArgumentException(\"Illegal Capacity:
$initialCapacity\")\n }\n }\n\n /**\n * Constructs an empty deque.\n * \n public constructor() {\n
elementData = emptyElementData\n }\n\n /**\n * Constructs a deque that contains the same elements as the
specified [elements] collection in the same order.\n * \n public constructor(elements: Collection<E>) {\n
elementData = elements.toArray()\n size = elementData.size\n if (elementData.isEmpty())
elementData = emptyElementData\n }\n\n /**\n * Ensures that the capacity of this deque is at least equal to
the specified [minCapacity].\n * \n * If the current capacity is less than the [minCapacity], a new backing

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storage is allocated with greater capacity.\n    * Otherwise, this method takes no action and simply returns.\n    */\n    private fun ensureCapacity(minCapacity: Int) {\n        if (minCapacity < 0) throw IllegalStateException("Deque is too big.") // overflow\n        if (minCapacity <= elementData.size) return\n        if (elementData === emptyElementData) {\n            elementData = arrayOfNulls(minCapacity.coerceAtLeast(defaultMinCapacity))\n            return\n        }\n        val newCapacity = newCapacity(elementData.size, minCapacity)\n        copyElements(newCapacity)\n    }\n\n    /**\n     * Creates a new array with the specified [newCapacity] size and copies elements in the [elementData] array to it.\n     */\n    private fun copyElements(newCapacity: Int) {\n        val newElements = arrayOfNulls<Any?>(newCapacity)\n        elementData.copyInto(newElements, 0, head, elementData.size)\n        elementData.copyInto(newElements, elementData.size - head, 0, head)\n        head = 0\n        elementData = newElements\n    }\n\n    @kotlin.internal.InlineOnly\n    private inline fun internalGet(internalIndex: Int): E {\n        @Suppress("UNCHECKED_CAST")\n        return elementData[internalIndex] as E\n    }\n\n    private fun positiveMod(index: Int): Int = if (index >= elementData.size) index - elementData.size else index\n\n    private fun negativeMod(index: Int): Int = if (index < 0) index + elementData.size else index\n\n    @kotlin.internal.InlineOnly\n    private inline fun internalIndex(index: Int): Int = positiveMod(head + index)\n\n    private fun incremented(index: Int): Int = if (index == elementData.lastIndex) 0 else index + 1\n\n    private fun decremented(index: Int): Int = if (index == 0) elementData.lastIndex else index - 1\n\n    override fun isEmpty(): Boolean = size == 0\n\n    /**\n     * Returns the first element, or throws [NoSuchElementException] if this deque is empty.\n     */\n    public fun first(): E = if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else internalGet(head)\n\n    /**\n     * Returns the first element, or `null` if this deque is empty.\n     */\n    public fun firstOrNull(): E? = if (isEmpty()) null else internalGet(head)\n\n    /**\n     * Returns the last element, or throws [NoSuchElementException] if this deque is empty.\n     */\n    public fun last(): E = if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.") else internalGet(internalIndex(lastIndex))\n\n    /**\n     * Returns the last element, or `null` if this deque is empty.\n     */\n    public fun lastOrNull(): E? = if (isEmpty()) null else internalGet(internalIndex(lastIndex))\n\n    /**\n     * Prepends the specified [element] to this deque.\n     */\n    public fun addFirst(element: E) {\n        ensureCapacity(size + 1)\n        head = decremented(head)\n        elementData[head] = element\n        size += 1\n    }\n\n    /**\n     * Appends the specified [element] to this deque.\n     */\n    public fun addLast(element: E) {\n        ensureCapacity(size + 1)\n        elementData[internalIndex(size)] = element\n        size += 1\n    }\n\n    /**\n     * Removes the first element from this deque and returns that removed element, or throws [NoSuchElementException] if this deque is empty.\n     */\n    public fun removeFirst(): E {\n        if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n        val element = internalGet(head)\n        elementData[head] = null\n        head = incremented(head)\n        size -= 1\n        return element\n    }\n\n    /**\n     * Removes the first element from this deque and returns that removed element, or returns `null` if this deque is empty.\n     */\n    public fun removeFirstOrNull(): E? = if (isEmpty()) null else removeFirst()\n\n    /**\n     * Removes the last element from this deque and returns that removed element, or throws [NoSuchElementException] if this deque is empty.\n     */\n    public fun removeLast(): E {\n        if (isEmpty()) throw NoSuchElementException("ArrayDeque is empty.")\n        val internalLastIndex = internalIndex(lastIndex)\n        val element = internalGet(internalLastIndex)\n        elementData[internalLastIndex] = null\n        size -= 1\n        return element\n    }\n\n    /**\n     * Removes the last element from this deque and returns that removed element, or returns `null` if this deque is empty.\n     */\n    public fun removeLastOrNull(): E? = if (isEmpty()) null else removeLast()\n\n    // MutableList, MutableCollection\n    public override fun add(element: E): Boolean {\n        addLast(element)\n        return true\n    }\n\n    public override fun add(index: Int, element: E) {\n        AbstractList.checkPositionIndex(index, size)\n        if (index == size) {\n            addLast(element)\n            return\n        } else if (index == 0) {\n            addFirst(element)\n            return\n        }\n        ensureCapacity(size + 1)\n\n        // Elements in circular array lay in 2 ways:\n        // 1. `head` is less than `tail`:  [#, #, e1, e2, e3, #]\n        // 2. `head` is greater than `tail`: [e3, #, #, #, e1, e2]\n        // where head is the index of the first element in the circular array,\n        // and tail is the index following the last element.\n        // At this point the insertion index is not equal to head or tail.\n        // Also the circular array can store at least one more element.\n
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// Depending on where the given element must be inserted the preceding or the succeeding // elements
will be shifted to make room for the element to be inserted. // In case the preceding elements are
shifted: // * if the insertion index is greater than the head (regardless of circular array form) // ->
shift the preceding elements // * otherwise, the circular array has (2) form and the insertion index is less than
tail // -> shift all elements in the back of the array // -> shift preceding elements in the front of the
array // In case the succeeding elements are shifted: // * if the insertion index is less than the tail
(regardless of circular array form) // -> shift the succeeding elements // * otherwise, the circular
array has (2) form and the insertion index is greater than head // -> shift all elements in the front of the
array // -> shift succeeding elements in the back of the array
val internalIndex =
internalIndex(index)
if (index < (size + 1) shr 1) { // closer to the first element -> shift preceding
elements
val decrementedInternalIndex = decremented(internalIndex)
val decrementedHead =
decremented(head)
if (decrementedInternalIndex >= head) {
elementData[decrementedHead]
= elementData[head] // head can be zero
elementData.copyInto(elementData, head, head + 1,
decrementedInternalIndex + 1)
} else { // head > tail
elementData.copyInto(elementData, head -
1, head, elementData.size) // head can't be zero
elementData[elementData.size - 1] = elementData[0]
elementData.copyInto(elementData, 0, 1, decrementedInternalIndex + 1)
}
elementData[decrementedInternalIndex] = element
head = decrementedHead
} else { //
closer to the last element -> shift succeeding elements
val tail = internalIndex(size)
if
(internalIndex < tail) {
elementData.copyInto(elementData, internalIndex + 1, internalIndex, tail)
} else { // head > tail
elementData.copyInto(elementData, 1, 0, tail)
elementData[0] =
elementData[elementData.size - 1]
elementData.copyInto(elementData, internalIndex + 1, internalIndex,
elementData.size - 1)
}
elementData[internalIndex] = element
}
size += 1
}
private fun copyCollectionElements(internalIndex: Int, elements: Collection<E>) {
val iterator =
elements.iterator()
for (index in internalIndex until elementData.size) {
if (!iterator.hasNext())
break
elementData[index] = iterator.next()
}
for (index in 0 until head) {
if
(!iterator.hasNext()) break
elementData[index] = iterator.next()
}
size += elements.size
}
public override fun addAll(elements: Collection<E>): Boolean {
if (elements.isEmpty()) return false
ensureCapacity(this.size + elements.size)
copyCollectionElements(internalIndex(size), elements)
return true
}
public override fun addAll(index: Int, elements: Collection<E>): Boolean {
AbstractList.checkPositionIndex(index, size)
if (elements.isEmpty())
return false
} else if
(index == size) {
return addAll(elements)
}
ensureCapacity(this.size + elements.size)
val tail = internalIndex(size)
val internalIndex = internalIndex(index)
val elementsSize =
elements.size
if (index < (size + 1) shr 1) { // closer to the first element -> shift preceding
elements
var shiftedHead = head - elementsSize
if (internalIndex >= head) {
if
(shiftedHead >= 0) {
elementData.copyInto(elementData, shiftedHead, head, internalIndex)
} else { // head < tail, insertion leads to head >= tail
shiftedHead += elementData.size
val
elementsToShift = internalIndex - head
val shiftToBack = elementData.size - shiftedHead
if (shiftToBack >= elementsToShift) {
elementData.copyInto(elementData, shiftedHead, head,
internalIndex)
} else {
elementData.copyInto(elementData, shiftedHead, head, head +
shiftToBack)
elementData.copyInto(elementData, 0, head + shiftToBack, internalIndex)
}
}
} else { // head > tail, internalIndex < tail
elementData.copyInto(elementData,
shiftedHead, head, elementData.size)
if (elementsSize >= internalIndex) {
elementData.copyInto(elementData, elementData.size - elementsSize, 0, internalIndex)
} else {
elementData.copyInto(elementData, elementData.size - elementsSize, 0, elementsSize)
elementData.copyInto(elementData, 0, elementsSize, internalIndex)
}
}
head =
shiftedHead
copyCollectionElements(negativeMod(internalIndex - elementsSize), elements)
} else
{
// closer to the last element -> shift succeeding elements
val shiftedInternalIndex =
internalIndex + elementsSize
if (internalIndex < tail) {
if (tail + elementsSize <=

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elementData.size) {\n                elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail)\n
    } else { // head < tail, insertion leads to head >= tail\n                if (shiftedInternalIndex >= elementData.size)\n
{\n                elementData.copyInto(elementData, shiftedInternalIndex - elementData.size, internalIndex, tail)\n
    } else {\n                val shiftToFront = tail + elementsSize - elementData.size\n
elementData.copyInto(elementData, 0, tail - shiftToFront, tail)\n                elementData.copyInto(elementData,\n
shiftedInternalIndex, internalIndex, tail - shiftToFront)\n                }\n                } else { // head > tail,\n
internalIndex > head\n                elementData.copyInto(elementData, elementsSize, 0, tail)\n                if\n
(shiftedInternalIndex >= elementData.size) {\n                elementData.copyInto(elementData, shiftedInternalIndex\n
- elementData.size, internalIndex, elementData.size)\n                } else {\n
elementData.copyInto(elementData, 0, elementData.size - elementsSize, elementData.size)\n
elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, elementData.size - elementsSize)\n
}\n        }\n        copyCollectionElements(internalIndex, elements)\n        }\n\n        return true\n    }\n\n    public\n
override fun get(index: Int): E {\n        AbstractList.checkElementIndex(index, size)\n\n        return\n
internalGet(internalIndex(index))\n    }\n\n    public override fun set(index: Int, element: E): E {\n
AbstractList.checkElementIndex(index, size)\n\n        val internalIndex = internalIndex(index)\n        val oldElement\n
= internalGet(internalIndex)\n        elementData[internalIndex] = element\n\n        return oldElement\n    }\n\n    public override fun contains(element: E): Boolean = indexOf(element) != -1\n\n    public override fun\n
indexOf(element: E): Int {\n        val tail = internalIndex(size)\n\n        if (head < tail) {\n            for (index in head\n
until tail) {\n                if (element == elementData[index]) return index - head\n            }\n        } else if (head >=\n
tail) {\n            for (index in head until elementData.size) {\n                if (element == elementData[index]) return\n
index - head\n            }\n            for (index in 0 until tail) {\n                if (element == elementData[index]) return\n
index + elementData.size - head\n            }\n        }\n\n        return -1\n    }\n\n    public override fun\n
lastIndexOf(element: E): Int {\n        val tail = internalIndex(size)\n\n        if (head < tail) {\n            for (index in tail\n
- 1 downTo head) {\n                if (element == elementData[index]) return index - head\n            }\n        } else if\n
(head > tail) {\n            for (index in tail - 1 downTo 0) {\n                if (element == elementData[index]) return\n
index + elementData.size - head\n            }\n            for (index in elementData.lastIndex downTo head) {\n
if (element == elementData[index]) return index - head\n            }\n        }\n\n        return -1\n    }\n\n    public\n
override fun remove(element: E): Boolean {\n        val index = indexOf(element)\n        if (index == -1) return\n
false\n        removeAt(index)\n        return true\n    }\n\n    public override fun removeAt(index: Int): E {\n
AbstractList.checkElementIndex(index, size)\n\n        if (index == lastIndex) {\n            return removeLast()\n        }\n
else if (index == 0) {\n            return removeFirst()\n        }\n\n        val internalIndex = internalIndex(index)\n
val element = internalGet(internalIndex)\n\n        if (index < size shr 1) {\n            // closer to the first element ->\n
shift preceding elements\n            if (internalIndex >= head) {\n                elementData.copyInto(elementData, head\n
+ 1, head, internalIndex)\n            } else { // head > tail, internalIndex < head\n
elementData.copyInto(elementData, 1, 0, internalIndex)\n                elementData[0] = elementData[elementData.size\n
- 1]\n                elementData.copyInto(elementData, head + 1, head, elementData.size - 1)\n            }\n\n            elementData[head] = null\n            head = incremented(head)\n        } else {\n            // closer to the last element ->\n
shift succeeding elements\n            val internalLastIndex = internalIndex(lastIndex)\n\n            if (internalIndex <=\n
internalLastIndex) {\n                elementData.copyInto(elementData, internalIndex, internalIndex + 1,\n
internalLastIndex + 1)\n            } else { // head > tail, internalIndex > head\n
elementData.copyInto(elementData, internalIndex, internalIndex + 1, elementData.size)\n
elementData[elementData.size - 1] = elementData[0]\n                elementData.copyInto(elementData, 0, 1,\n
internalLastIndex + 1)\n            }\n\n            elementData[internalLastIndex] = null\n        }\n\n        size -= 1\n\n        return element\n    }\n\n    public override fun removeAll(elements: Collection<E>): Boolean = filterInPlace {\n
!elements.contains(it) }\n\n    public override fun retainAll(elements: Collection<E>): Boolean = filterInPlace {\n
elements.contains(it) }\n\n    private inline fun filterInPlace(predicate: (E) -> Boolean): Boolean {\n        if\n
(this.isEmpty() || elementData.isEmpty())\n        return false\n\n        val tail = internalIndex(size)\n        var\n
newTail = head\n        var modified = false\n\n        if (head < tail) {\n            for (index in head until tail) {\n

```



```

    val element = elementData[index]\n\n        @Suppress(\\"UNCHECKED_CAST\\")\n        if
(predicate(element as E))\n        elementData[newTail++] = element\n        else\n        modified =
true\n        }\n\n        elementData.fill(null, newTail, tail)\n\n        } else {\n        for (index in head until
elementData.size) {\n        val element = elementData[index]\n        elementData[index] = null\n\n        @Suppress(\\"UNCHECKED_CAST\\")\n        if (predicate(element as E))\n        elementData[newTail++] = element\n        else\n        modified = true\n        }\n\n        newTail =
positiveMod(newTail)\n\n        for (index in 0 until tail) {\n        val element = elementData[index]\n
elementData[index] = null\n\n        @Suppress(\\"UNCHECKED_CAST\\")\n        if (predicate(element as
E)) {\n        elementData[newTail] = element\n        newTail = incremented(newTail)\n        }
else {\n        modified = true\n        }\n        }\n        }\n        if (modified)\n        size =
negativeMod(newTail - head)\n\n        return modified\n        }\n\n        public override fun clear() {\n        val tail =
internalIndex(size)\n        if (head < tail) {\n        elementData.fill(null, head, tail)\n        } else if (isEmpty())
{\n        elementData.fill(null, head, elementData.size)\n        elementData.fill(null, 0, tail)\n        }\n        head =
0\n        size = 0\n        }\n\n        @Suppress(\\"NOTHING_TO_OVERRIDE\\")\n        override fun <T> toArray(array:
Array<T>): Array<T> {\n        @Suppress(\\"UNCHECKED_CAST\\")\n        val dest = (if (array.size >= size) array
else arrayOfNulls(array, size)) as Array<Any?>\n\n        val tail = internalIndex(size)\n        if (head < tail) {\n
elementData.copyInto(dest, startIndex = head, endIndex = tail)\n        } else if (isEmpty()) {\n
elementData.copyInto(dest, destinationOffset = 0, startIndex = head, endIndex = elementData.size)\n
elementData.copyInto(dest, destinationOffset = elementData.size - head, startIndex = 0, endIndex = tail)\n        }\n
        if (dest.size > size) {\n        dest[size] = null // null-terminate\n        }\n\n        @Suppress(\\"UNCHECKED_CAST\\")\n        return dest as Array<T>\n        }\n\n        @Suppress(\\"NOTHING_TO_OVERRIDE\\")\n        override fun toArray(): Array<Any?> {\n        return
toArray(arrayOfNulls<Any?>(size))\n        }\n\n        // for testing\n        internal fun <T> testToArray(array: Array<T>):
Array<T> = toArray(array)\n        internal fun testToArray(): Array<Any?> = toArray()\n\n        internal companion
object {\n        private val emptyElementData = emptyArray<Any?>()\n        private const val maxArraySize =
Int.MAX_VALUE - 8\n        private const val defaultMinCapacity = 10\n\n        internal fun
newCapacity(oldCapacity: Int, minCapacity: Int): Int {\n        // overflow-conscious\n        var newCapacity =
oldCapacity + (oldCapacity shr 1)\n        if (newCapacity - minCapacity < 0)\n        newCapacity =
minCapacity\n        if (newCapacity - maxArraySize > 0)\n        newCapacity = if (minCapacity >
maxArraySize) Int.MAX_VALUE else maxArraySize\n        return newCapacity\n        }\n        }\n\n        // For testing
only\n        internal fun internalStructure(structure: (head: Int, elements: Array<Any?>) -> Unit) {\n        val tail =
internalIndex(size)\n        val head = if (isEmpty() || head < tail) head else head - elementData.size\n
structure(head, toArray())\n        }\n        }, /*\n        * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n        * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
        *\n        *\n        @file:kotlin.jvm.JvmMultifileClass\n        @file:kotlin.jvm.JvmName(\\"ArraysKt\\")\n\n        package
kotlin.collections\n        import kotlin.contracts.*\n\n        /**\n        * Returns a single list of all elements from all arrays in the
given array.\n        * @sample samples.collections.Arrays.Transformations.flattenArray\n        */\n        public fun <T> Array<out
Array<out T>>.flatten(): List<T> {\n        val result = ArrayList<T>(sumOf { it.size })\n        for (element in this) {\n
result.addAll(element)\n        }\n        return result\n        }\n\n        /**\n        * Returns a pair of lists, where\n        * *first* list is built from
the first values of each pair from this array,\n        * *second* list is built from the second values of each pair from this
array.\n        * @sample samples.collections.Arrays.Transformations.unzipArray\n        */\n        public fun <T, R> Array<out
Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n        val listT = ArrayList<T>(size)\n        val listR =
ArrayList<R>(size)\n        for (pair in this) {\n        listT.add(pair.first)\n        listR.add(pair.second)\n        }\n        return
listT to listR\n        }\n\n        /**\n        * Returns `true` if this nullable array is either null or empty.\n        * @sample
samples.collections.Arrays.Usage.arrayOrNullOrEmpty\n
        */\n        @SinceKotlin(\\"1.3\\")\n        @kotlin.internal.InlineOnly\n        public inline fun Array<*>.isNullOrEmpty(): Boolean
{\n        contract {\n        returns(false) implies (this@isNullOrEmpty != null)\n        }\n\n        return this == null ||

```

```

this.isEmpty()\n}\n\n**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if
the array is empty.\n *\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("UPPER_BOUND_CANNOT_BE_ARRAY\
")\npublic inline fun <C, R> C.isEmpty(defaultValue: () -> R): R where C : Array<*>, C : R =\n    if (isEmpty())
defaultValue() else
this\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.Jvm
Name("contentDeepEquals")\n@kotlin.js.JsName("contentDeepEqualsImpl")\ninternal fun <T> Array<out
T>?.contentDeepEqualsImpl(other: Array<out T>?): Boolean {\n    if (this === other) return true\n    if (this == null
|| other == null || this.size != other.size) return false\n\n    for (i in indices) {\n        val v1 = this[i]\n        val v2 =
other[i]\n\n        if (v1 === v2) {\n            continue\n        } else if (v1 == null || v2 == null) {\n            return false\n
        }\n\n        when {\n            v1 is Array<*> && v2 is Array<*> -> if (!v1.contentDeepEquals(v2)) return
false\n            v1 is ByteArray && v2 is ByteArray -> if (!v1.contentEquals(v2)) return false\n            v1 is
ShortArray && v2 is ShortArray -> if (!v1.contentEquals(v2)) return false\n            v1 is IntArray && v2 is
IntArray -> if (!v1.contentEquals(v2)) return false\n            v1 is LongArray && v2 is LongArray -> if
(!v1.contentEquals(v2)) return false\n            v1 is FloatArray && v2 is FloatArray -> if (!v1.contentEquals(v2))
return false\n            v1 is DoubleArray && v2 is DoubleArray -> if (!v1.contentEquals(v2)) return false\n
            v1 is CharArray && v2 is CharArray -> if (!v1.contentEquals(v2)) return false\n            v1 is BooleanArray &&
v2 is BooleanArray -> if (!v1.contentEquals(v2)) return false\n            v1 is UByteArray && v2 is UByteArray
-> if (!v1.contentEquals(v2)) return false\n            v1 is UShortArray && v2 is UShortArray -> if
(!v1.contentEquals(v2)) return false\n            v1 is UIntArray && v2 is UIntArray -> if (!v1.contentEquals(v2))
return false\n            v1 is ULongArray && v2 is ULongArray -> if (!v1.contentEquals(v2)) return false\n\n
        else -> if (v1 != v2) return false\n        }\n    }\n    return
true\n}\n\n\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepToString")\n@kotlin.js.
JsName("contentDeepToStringImpl")\ninternal fun <T> Array<out T>?.contentDeepToStringImpl(): String {\n
    if (this == null) return "null"\n    val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in order not
to overflow Int.MAX_VALUE\n    return buildString(length) {\n        contentDeepToStringInternal(this,
mutableListOf())\n    }\n}\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out
T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n    if (this in
processed) {\n        result.append("[...]")\n        return\n    }\n    processed.add(this)\n    result.append("[")\n\n    for (i
in indices) {\n        if (i != 0) {\n            result.append(", ")\n        }\n        val element = this[i]\n        when
(element) {\n            null -> result.append("null")\n            is Array<*> ->
element.contentDeepToStringInternal(result, processed)\n            is ByteArray ->
result.append(element.contentToString())\n            is ShortArray -> result.append(element.contentToString())\n
            is IntArray -> result.append(element.contentToString())\n            is LongArray ->
result.append(element.contentToString())\n            is FloatArray -> result.append(element.contentToString())\n
            is DoubleArray -> result.append(element.contentToString())\n            is CharArray ->
result.append(element.contentToString())\n            is BooleanArray -> result.append(element.contentToString())\n
            is UByteArray -> result.append(element.contentToString())\n            is UShortArray ->
result.append(element.contentToString())\n            is UIntArray -> result.append(element.contentToString())\n
            is ULongArray -> result.append(element.contentToString())\n            else ->
result.append(element.toString())\n        }\n    }\n    result.append("]")\n
    processed.removeAt(processed.lastIndex)\n}"/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n\n** Returns true if the brittle contains optimization
is enabled. See KT-45438. *\ninternal expect fun brittleContainsOptimizationEnabled(): Boolean\n\n\n**\n * Returns true if [brittleContainsOptimizationEnabled] is true\n * and it's safe to convert this collection to a set
without changing contains method behavior.\n *\nprivate fun <T> Collection<T>.safeToConvertToSet() =
brittleContainsOptimizationEnabled() && size > 2 && this is ArrayList\n\n\n**\n * When

```

```

[brittleContainsOptimizationEnabled] is true:\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * -
Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * -
Otherwise returns this.\n * When [brittleContainsOptimizationEnabled] is false:\n * - Converts this [Iterable] to a
list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T> =\n    when (this) {\n        is
Set -> this\n        is Collection -> \n            when {\n                source is Collection && source.size < 2 -> this\n
                else -> if (this.safeToConvertToSet()) toHashSet() else this\n            }\n        else -> if
(brittleContainsOptimizationEnabled()) toHashSet() else toList()\n    }\n\n/**\n * When
[brittleContainsOptimizationEnabled] is true:\n * - Converts this [Iterable] to a set if it is not a [Collection].\n * -
Converts this [Collection] to a set, when it's worth so and it doesn't change contains method behavior.\n * -
Otherwise returns this.\n * When [brittleContainsOptimizationEnabled] is false:\n * - Converts this [Iterable] to a
list if it is not a [Collection].\n * - Otherwise returns this.\n */\ninternal fun <T>
Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n    when (this) {\n        is Set -> this\n        is
Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n        else -> if
(brittleContainsOptimizationEnabled()) toHashSet() else toList()\n    }\n\n/**\n * Converts this sequence to a set if
[brittleContainsOptimizationEnabled] is true,\n * otherwise converts it to a list.\n */\ninternal fun <T>
Sequence<T>.convertToSetForSetOperation(): Collection<T> =\n    if (brittleContainsOptimizationEnabled())
toHashSet() else toList()\n\n/**\n * Converts this array to a set if [brittleContainsOptimizationEnabled] is true,\n *
otherwise converts it to a list.\n */\ninternal fun <T> Array<T>.convertToSetForSetOperation(): Collection<T> =\n    if
(brittleContainsOptimizationEnabled()) toHashSet() else asList()\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Data class
representing a value from a collection or sequence, along with its index in that collection or sequence.\n */\n *
@property value the underlying value.\n * @property index the index of the value in the collection or sequence.\n
*/\n\npublic data class IndexedValue<out T>(public val index: Int, public val value: T)\n\n"/*\n * Copyright 2010-
2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("MapAccessorsKt")\n\npackage kotlin.collections\n\nimport
kotlin.reflect.KProperty\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of the property for the given
object from this read-only map.\n * @param thisRef the object for which the value is requested (not used).\n *
@param property the metadata for the property, used to get the name of property and lookup the value
corresponding to this name in the map.\n * @return the property value.\n */\n * @throws NoSuchElementException
when the map doesn't contain value for the property name and doesn't provide an implicit default (see
[withDefault]).\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V> Map<in String, @Exact
V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n    @Suppress("UNCHECKED_CAST")
(getOrNull(thisRef, property.name) as V1)\n\n/**\n * Returns the value of the property for the given object from
this mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property
the metadata for the property, used to get the name of property and lookup the value corresponding to this name in
the map.\n * @return the property value.\n */\n * @throws NoSuchElementException when the map doesn't contain
value for the property name and doesn't provide an implicit default (see [withDefault]).\n
*/\n\n@kotlin.jvm.JvmName("getVar")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V>
MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n    @Suppress("UNCHECKED_CAST")
(getOrNull(thisRef, property.name) as V1)\n\n/**\n * Stores the value of the property for the given object in this
mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the
metadata for the property, used to get the name of property and store the value associated with that name in the
map.\n * @param value the value to set.\n
*/\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <V> MutableMap<in String, in V>.setValue(thisRef:
Any?, property: KProperty<*>, value: V) {\n    this.put(property.name, value)\n}\n\n"/*\n * Copyright 2010-2018

```

```

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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage
kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for this map.\n * By
default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n * To create a map with
implicit default value use [withDefault] method.\n * @throws NoSuchElementException when the map doesn't
contain a value for the specified key and no implicit default was provided for that map.\n
*/\n\n@kotlin.jvm.JvmName("getOrNullImplicitDefaultNullable")\n@PublishedApi\ninternal fun <K, V> Map<K,
V>.getOrNullImplicitDefault(key: K): V {\n    if (this is MapWithDefault)\n        return
this.getOrNullImplicitDefault(key)\n    return getOrNullNullable(key, { throw NoSuchElementException("Key $key
is missing in the map.") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value
provided with the specified function [defaultValue].\n * This implicit default value is used when the original
map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for
example when properties are delegated to the map.\n * When this map already has an implicit default value
provided with a former call to [withDefault], it is being replaced by this call.\n */\n\npublic fun <K, V> Map<K,
V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n    when (this) {\n        is MapWithDefault ->
this.map.withDefault(defaultValue)\n        else -> MapWithDefaultImpl(this, defaultValue)\n    }\n\n/**\n * Returns
a wrapper of this mutable map, having the implicit default value provided with the specified function
[defaultValue].\n * This implicit default value is used when the original map doesn't contain a value for the key
specified\n * and a value is obtained with [Map.getValue] function, for example when properties are delegated to the
map.\n * When this map already has an implicit default value provided with a former call to [withDefault], it is
being replaced by this call.\n */\n\n@kotlin.jvm.JvmName("withDefaultMutable")\npublic fun <K, V>
MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n    when (this) {\n        is
MutableMapWithDefault -> this.map.withDefault(defaultValue)\n        else -> MutableMapWithDefaultImpl(this,
defaultValue)\n    }\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n    public val map: Map<K,
V>\n    public fun getOrNullImplicitDefault(key: K): V?\n}\n\nprivate interface MutableMapWithDefault<K, V> :
MutableMap<K, V>, MapWithDefault<K, V> {\n    public override val map: MutableMap<K, V>\n}\n\nprivate
class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) :
MapWithDefault<K, V> {\n    override fun equals(other: Any?): Boolean = map.equals(other)\n    override fun
hashCode(): Int = map.hashCode()\n    override fun toString(): String = map.toString()\n    override val size: Int
get() = map.size\n    override fun isEmpty(): Boolean = map.isEmpty()\n    override fun containsKey(key: K): Boolean =
map.containsKey(key)\n    override fun containsValue(value: @UnsafeVariance V): Boolean =
map.containsValue(value)\n    override fun get(key: K): V? = map.get(key)\n    override val keys: Set<K> get() =
map.keys\n    override val values: Collection<V> get() = map.values\n    override val entries: Set<Map.Entry<K,
V>> get() = map.entries\n}\n\nprivate class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K,
V>, private val default: (key: K) -> V) : MutableMapWithDefault<K, V> {\n    override fun equals(other: Any?):
Boolean = map.equals(other)\n    override fun hashCode(): Int = map.hashCode()\n    override fun toString(): String
= map.toString()\n    override val size: Int get() = map.size\n    override fun isEmpty(): Boolean = map.isEmpty()\n
override fun containsKey(key: K): Boolean = map.containsKey(key)\n    override fun containsValue(value:
@UnsafeVariance V): Boolean = map.containsValue(value)\n    override fun get(key: K): V? = map.get(key)\n
override val keys: MutableSet<K> get() = map.keys\n    override val values: MutableCollection<V> get() =
map.values\n    override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n}\n
override fun put(key: K, value: V): V? = map.put(key, value)\n    override fun remove(key: K): V? =
map.remove(key)\n    override fun putAll(from: Map<out K, V>) = map.putAll(from)\n    override fun clear() =
map.clear()\n}\n\n    override fun getOrNullImplicitDefault(key: K): V = map.getOrNullNullable(key, { default(key)
})\n}\n\n"/\n\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

```

```

*  

@file:kotlin.jvm.JvmMultifileClass  

@file:kotlin.jvm.JvmName("CollectionsKt")  

package  

kotlin.collections  

import kotlin.random.Random  

* Removes a single instance of the specified element  

from this collection, if it is present.  

* Allows to overcome type-safety restriction of `remove` that requires  

to pass an element of type `E`.  

* @return `true` if the element has been successfully removed; `false` if it was  

not present in the collection.  

@kotlin.internal.InlineOnly  

public inline fun <@kotlin.internal.OnlyInputTypes  

T> MutableCollection<out T>.remove(element: T): Boolean =  

    @Suppress("UNCHECKED_CAST") (this as  

MutableCollection<T>).remove(element)  

* Removes all of this collection's elements that are also  

contained in the specified collection.  

* Allows to overcome type-safety restriction of `removeAll` that requires  

to pass a collection of type `Collection<E>`.  

* @return `true` if any of the specified elements was removed  

from the collection, `false` if the collection was not modified.  

@kotlin.internal.InlineOnly  

public inline fun  

<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements: Collection<T>): Boolean  

=  

    @Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).removeAll(elements)  

* Retains only the elements in this collection that are contained in the specified collection.  

* Allows to  

overcome type-safety restriction of `retainAll` that requires to pass a collection of type `Collection<E>`.  

* @return `true` if any element was removed from the collection, `false` if the collection was not modified.  

@kotlin.internal.InlineOnly  

public inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out  

T>.retainAll(elements: Collection<T>): Boolean =  

    @Suppress("UNCHECKED_CAST") (this as  

MutableCollection<T>).retainAll(elements)  

* Adds the specified [element] to this mutable collection.  

@kotlin.internal.InlineOnly  

public inline operator fun <T> MutableCollection<in T>.plusAssign(element: T)  

{  

    this.add(element)  

}
* Adds all elements of the given [elements] collection to this mutable  

collection.  

@kotlin.internal.InlineOnly  

public inline operator fun <T> MutableCollection<in  

T>.plusAssign(elements: Iterable<T>) {  

    this.addAll(elements)  

}
* Adds all elements of the given  

[elements] array to this mutable collection.  

@kotlin.internal.InlineOnly  

public inline operator fun <T>  

MutableCollection<in T>.plusAssign(elements: Array<T>) {  

    this.addAll(elements)  

}
* Adds all  

elements of the given [elements] sequence to this mutable collection.  

@kotlin.internal.InlineOnly  

public  

inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Sequence<T>) {  

    this.addAll(elements)  

}
* Removes a single instance of the specified [element] from this mutable  

collection.  

@kotlin.internal.InlineOnly  

public inline operator fun <T> MutableCollection<in  

T>.minusAssign(element: T) {  

    this.remove(element)  

}
* Removes all elements contained in the given  

[elements] collection from this mutable collection.  

@kotlin.internal.InlineOnly  

public inline operator fun  

<T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) {  

    this.removeAll(elements)  

}
* Removes all elements contained in the given [elements]  

array from this mutable collection.  

@kotlin.internal.InlineOnly  

public inline operator fun <T> MutableCollection<in T>.minusAssign(elements:  

Array<T>) {  

    this.removeAll(elements)  

}
* Removes all elements contained in the given [elements]  

sequence from this mutable collection.  

@kotlin.internal.InlineOnly  

public inline operator fun <T>  

MutableCollection<in T>.minusAssign(elements: Sequence<T>) {  

    this.removeAll(elements)  

}
* Adds  

all elements of the given [elements] collection to this [MutableCollection].  

public fun <T>  

MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean {  

    when (elements) {  

        is Collection ->  

return addAll(elements)  

        else -> {  

            var result: Boolean = false  

            for (item in elements)  

if (add(item)) result = true  

            return result  

        }  

    }  

}
* Adds all elements of the given  

[elements] sequence to this [MutableCollection].  

public fun <T> MutableCollection<in T>.addAll(elements:  

Sequence<T>): Boolean {  

    var result: Boolean = false  

    for (item in elements) {  

        if (add(item)) result =  

true  

    }  

    return result  

}
* Adds all elements of the given [elements] array to this  

[MutableCollection].  

public fun <T> MutableCollection<in T>.addAll(elements: Array<out T>): Boolean {  

return addAll(elements.asList())  

}
* Removes all elements from this [MutableCollection] that are also  

contained in the given [elements] collection.  

public fun <T> MutableCollection<in T>.removeAll(elements:  

Iterable<T>): Boolean {  

return removeAll(elements.convertToSetForSetOperationWith(this))  

}
* Removes all elements from this [MutableCollection] that are also contained in the given [elements] sequence.

```

```

*public fun <T> MutableCollection<in T>.removeAll(elements: Sequence<T>): Boolean {
    val set = elements.convertToSetForSetOperation()
    return set.isNotEmpty() && removeAll(set)
}
/**
 * Removes all elements from this [MutableCollection] that are also contained in the given [elements] array.
 */
*public fun <T> MutableCollection<in T>.removeAll(elements: Array<out T>): Boolean {
    return elements.isNotEmpty() && removeAll(elements.convertToSetForSetOperation())
}
/**
 * Retains only elements of this [MutableCollection] that are contained in the given [elements] collection.
 */
*public fun <T> MutableCollection<in T>.retainAll(elements: Iterable<T>): Boolean {
    return retainAll(elements.convertToSetForSetOperationWith(this))
}
/**
 * Retains only elements of this [MutableCollection] that are contained in the given [elements] array.
 */
*public fun <T> MutableCollection<in T>.retainAll(elements: Array<out T>): Boolean {
    if (elements.isNotEmpty())
        return retainAll(elements.convertToSetForSetOperation())
    else
        return retainNothing()
}
/**
 * Retains only elements of this [MutableCollection] that are contained in the given [elements] sequence.
 */
*public fun <T> MutableCollection<in T>.retainAll(elements: Sequence<T>): Boolean {
    val set = elements.convertToSetForSetOperation()
    if (set.isNotEmpty())
        return retainAll(set)
    else
        return retainNothing()
}
private fun MutableCollection<*>.retainNothing(): Boolean {
    val result = isEmpty()
    clear()
    return result
}
/**
 * Removes all elements from this [MutableIterable] that match the given [predicate].
 * @return `true` if any element was removed from this collection, or `false` when no elements were removed and collection was not modified.
 */
*public fun <T> MutableIterable<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, true)
/**
 * Retains only elements of this [MutableIterable] that match the given [predicate].
 * @return `true` if any element was removed from this collection, or `false` when all elements were retained and collection was not modified.
 */
*public fun <T> MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, false)
private fun <T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {
    var result = false
    with(iterator()) {
        while (hasNext())
            if (predicate(next()) == predicateResultToRemove)
                remove()
                result = true
    }
    return result
}
/**
 * Removes the element at the specified [index] from this list.
 * In Kotlin one should use the [MutableList.removeAt] function instead.
 * @Deprecated("Use removeAt(index) instead.", ReplaceWith("removeAt(index)", level = DeprecationLevel.ERROR))
 */
@kotlin.internal.InlineOnly
*public inline fun <T> MutableList<T>.remove(index: Int): T = removeAt(index)
/**
 * Removes the first element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.
 */
*@SinceKotlin("1.4")
*@WasExperimental(ExperimentalStdlibApi::class)
*public fun <T> MutableList<T>.removeFirst(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else removeAt(0)
/**
 * Removes the first element from this mutable list and returns that removed element, or returns `null` if this list is empty.
 */
*@SinceKotlin("1.4")
*@WasExperimental(ExperimentalStdlibApi::class)
*public fun <T> MutableList<T>.removeFirstOrNull(): T? = if (isEmpty()) null else removeAt(0)
/**
 * Removes the last element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.
 */
*@SinceKotlin("1.4")
*@WasExperimental(ExperimentalStdlibApi::class)
*public fun <T> MutableList<T>.removeLast(): T = if (isEmpty()) throw NoSuchElementException("List is empty.") else removeAt(lastIndex)
/**
 * Removes the last element from this mutable list and returns that removed element, or returns `null` if this list is empty.
 */
*@SinceKotlin("1.4")
*@WasExperimental(ExperimentalStdlibApi::class)
*public fun <T> MutableList<T>.removeLastOrNull(): T? = if (isEmpty()) null else removeAt(lastIndex)
/**
 * Removes all elements from this [MutableList] that match the given [predicate].
 * @return `true` if any element was removed from this collection, or `false` when no elements were removed and collection was not modified.
 */
*public fun <T> MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, true)
/**
 * Retains only elements of this [MutableList] that match the given [predicate].
 * @return `true` if any element was removed from this collection, or `false` when all elements were retained and collection was not
 */

```

```

modified.\n *\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, false)\n\nprivate fun <T> MutableList<T>.filterInPlace(predicate: (T) -> Boolean,
predicateResultToRemove: Boolean): Boolean {\n    if (this !is RandomAccess)\n        return (this as
MutableIterable<T>).filterInPlace(predicate, predicateResultToRemove)\n\n    var writeIndex: Int = 0\n    for
(readIndex in 0..lastIndex) {\n        val element = this[readIndex]\n        if (predicate(element) ==
predicateResultToRemove)\n            continue\n\n        if (writeIndex != readIndex)\n            this[writeIndex] =
element\n\n        writeIndex++\n    }\n    if (writeIndex < size) {\n        for (removeIndex in lastIndex downTo
writeIndex)\n            removeAt(removeIndex)\n\n        return true\n    } else {\n        return false\n    }\n}\n"/*\n *
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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) :
AbstractList<T>() {\n    override val size: Int get() = delegate.size\n    override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) :
AbstractMutableList<T>() {\n    override val size: Int get() = delegate.size\n    override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n\n    override fun clear() = delegate.clear()\n    override fun removeAt(index:
Int): T = delegate.removeAt(reverseElementIndex(index))\n\n    override fun set(index: Int, element: T): T =
delegate.set(reverseElementIndex(index), element)\n\n    override fun add(index: Int, element: T) {\n
delegate.add(reversePositionIndex(index), element)\n    }\n}\n\nprivate fun List<*>.reverseElementIndex(index:
Int) =\n    if (index in 0..lastIndex) lastIndex - index else throw IndexOutOfBoundsException("Element index
$index must be in range [0..lastIndex].")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n    if (index
in 0..size) size - index else throw IndexOutOfBoundsException("Position index $index must be in range
[0..size].")\n\n"/*\n * Returns a reversed read-only view of the original List.\n * All changes made in the
original list will be reflected in the reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n
*/\n\npublic fun <T> List<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n\n"/*\n * Returns a reversed
mutable view of the original mutable List.\n * All changes made in the original list will be reflected in the reversed
one and vice versa.\n * @sample samples.collections.ReversedViews.asReversedMutableList\n
*/\n\n@kotlin.jvm.JvmName("asReversedMutable")\n\npublic fun <T> MutableList<T>.asReversed():
MutableList<T> = ReversedList(this)\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n@file:OptIn(ExperimentalTypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n"/*\n * Builds a
[Sequence] lazily yielding values one by one.\n * @see kotlin.sequences.generateSequence\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*/\n\n@SinceKotlin("1.3")\n\npublic fun <T>
sequence(@BuilderInference block: suspend SequenceScope<T>().() -> Unit): Sequence<T> = Sequence {
iterator(block) }\n\n@SinceKotlin("1.3")\n\n@Deprecated("Use 'sequence { }' function instead.",
ReplaceWith("sequence(builderAction)"), level =
DeprecationLevel.ERROR)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> buildSequence(@BuilderInference
noinline builderAction: suspend SequenceScope<T>().() -> Unit): Sequence<T> = Sequence { iterator(builderAction)
}\n\n"/*\n * Builds an [Iterator] lazily yielding values one by one.\n * @sample
samples.collections.Sequences.Building.buildIterator\n * @sample samples.collections.Iterables.Building.iterable\n
*/\n\n@SinceKotlin("1.3")\n\npublic fun <T> iterator(@BuilderInference block: suspend SequenceScope<T>().() ->
Unit): Iterator<T> {\n    val iterator = SequenceBuilderIterator<T>()\n    iterator.nextStep =
block.createCoroutineUnintercepted(receiver = iterator, completion = iterator)\n    return
iterator\n}\n\n@SinceKotlin("1.3")\n\n@Deprecated("Use 'iterator { }' function instead.",

```

```

ReplaceWith("iterator(builderAction)"), level = DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> buildIterator(@BuilderInference noinline builderAction: suspend SequenceScope<T>().-> Unit):
Iterator<T> = iterator(builderAction)\n\n/**\n * The scope for yielding values of a [Sequence] or an [Iterator],
provides [yield] and [yieldAll] suspension functions.\n *\n * @see sequence\n * @see iterator\n *\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*\n@RestrictsSuspension\n@SinceKotlin("1.3")\npublic abstract class SequenceScope<in T> internal
constructor() {\n /**\n * Yields a value to the [Iterator] being built and suspends\n * until the next value is
requested.\n *\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n */\n public abstract suspend fun yield(value:
T)\n\n /**\n * Yields all values from the `iterator` to the [Iterator] being built\n * and suspends until all these
values are iterated and the next one is requested.\n *\n * The sequence of values returned by the given iterator
can be potentially infinite.\n *\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n
*/\n public abstract suspend fun yieldAll(iterator: Iterator<T>)\n\n /**\n * Yields a collections of values to
the [Iterator] being built\n * and suspends until all these values are iterated and the next one is requested.\n
*\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n */\n public suspend fun
yieldAll(elements: Iterable<T>) {\n if (elements is Collection && elements.isEmpty()) return\n return
yieldAll(elements.iterator())\n }\n\n /**\n * Yields potentially infinite sequence of values to the [Iterator]
being built\n * and suspends until all these values are iterated and the next one is requested.\n *\n * The
sequence can be potentially infinite.\n *\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n */\n public suspend fun yieldAll(sequence:
Sequence<T>) = yieldAll(sequence.iterator())\n\n\n@Deprecated("Use SequenceScope class instead.",
ReplaceWith("SequenceScope<T>"), level = DeprecationLevel.ERROR)\npublic typealias SequenceBuilder<T> =
SequenceScope<T>\n\nprivate typealias State = Int\nprivate const val State_NotReady: State = 0\nprivate const
val State_ManyNotReady: State = 1\nprivate const val State_ManyReady: State = 2\nprivate const val State_Ready:
State = 3\nprivate const val State_Done: State = 4\nprivate const val State_Failed: State = 5\nprivate class
SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>, Continuation<Unit> {\n private var state =
State_NotReady\n private var nextValue: T? = null\n private var nextIterator: Iterator<T>? = null\n var
nextStep: Continuation<Unit>? = null\n\n override fun hasNext(): Boolean {\n while (true) {\n when
(state) {\n State_NotReady -> {}\n State_ManyNotReady ->\n if
(nextIterator!!.hasNext()) {\n state = State_ManyReady\n return true\n }
else {\n nextIterator = null\n }\n State_Done -> return false\n
State_Ready, State_ManyReady -> return true\n else -> throw exceptionalState()\n }\n\n state
= State_Failed\n val step = nextStep!!\n nextStep = null\n step.resume(Unit)\n }\n }\n\n
override fun next(): T {\n when (state) {\n State_NotReady, State_ManyNotReady -> return
nextNotReady()\n State_ManyReady -> {\n state = State_ManyNotReady\n return
nextIterator!!.next()\n }\n State_Ready -> {\n state = State_NotReady\n
@Suppress("UNCHECKED_CAST")\n val result = nextValue as T\n nextValue = null\n
return result\n }\n else -> throw exceptionalState()\n }\n }\n\n private fun nextNotReady(): T
{\n if (!hasNext()) throw NoSuchElementException() else return next()\n }\n\n private fun
exceptionalState(): Throwable = when (state) {\n State_Done -> NoSuchElementException()\n State_Failed
-> IllegalStateException("Iterator has failed.")\n else -> IllegalStateException("Unexpected state of the
iterator: $state")\n }\n\n\n override suspend fun yield(value: T) {\n nextValue = value\n state =
State_Ready\n return suspendCoroutineUninterceptedOrReturn { c ->\n nextStep = c\n
COROUTINE_SUSPENDED\n }\n }\n\n override suspend fun yieldAll(iterator: Iterator<T>) {\n if
(!iterator.hasNext()) return\n nextIterator = iterator\n state = State_ManyReady\n return
suspendCoroutineUninterceptedOrReturn { c ->\n nextStep = c\n COROUTINE_SUSPENDED\n
}\n }\n\n // Completion continuation implementation\n override fun resumeWith(result: Result<Unit>) {\n

```



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result.getOrThrow() // just rethrow exception if it is there
    state = State_Done
}

override val context:
CoroutineContext
    get() = EmptyCoroutineContext

/*
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can be found in the license/LICENSE.txt file.
 */
package kotlin.collections
internal fun
checkWindowSizeStep(size: Int, step: Int) {
    require(size > 0 && step > 0) {
        if (size != step)
            "Both size $size and step $step must be greater than zero."
        else
            "size $size must be greater than
zero."
    }
}

internal fun <T> Sequence<T>.windowedSequence(size: Int, step: Int, partialWindows: Boolean,
reuseBuffer: Boolean): Sequence<List<T>> {
    checkWindowSizeStep(size, step)
    return Sequence {
        windowedIterator(iterator(), size, step, partialWindows, reuseBuffer)
    }
}

internal fun <T>
windowedIterator(iterator: Iterator<T>, size: Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean):
Iterator<List<T>> {
    if (!iterator.hasNext()) return EmptyIterator
    return iterator<List<T>> {
        val
bufferInitialCapacity = size.coerceAtMost(1024)
        val gap = step - size
        if (gap >= 0) {
            var buffer
= ArrayList<T>(bufferInitialCapacity)
            var skip = 0
            for (e in iterator) {
                if (skip > 0) {
                    skip -= 1; continue
                }
                buffer.add(e)
                if (buffer.size == size) {
                    yield(buffer)
                    if (reuseBuffer) buffer.clear() else buffer = ArrayList(size)
                    skip = gap
                }
            }
            if (buffer.isNotEmpty()) {
                if (partialWindows || buffer.size == size) yield(buffer)
            }
        } else {
            var buffer = RingBuffer<T>(bufferInitialCapacity)
            for (e in iterator) {
                buffer.add(e)
                if (buffer.isFull()) {
                    if (buffer.size < size) {
                        buffer =
buffer.expanded(maxCapacity = size); continue
                    }
                    yield(if (reuseBuffer) buffer else
ArrayList(buffer))
                    buffer.removeFirst(step)
                }
            }
            if (partialWindows) {
                while (buffer.size > step) {
                    yield(if (reuseBuffer) buffer else ArrayList(buffer))
                    buffer.removeFirst(step)
                }
                if (buffer.isNotEmpty()) yield(buffer)
            }
        }
    }
}

internal class MovingSubList<out E>(private val list: List<E>) : AbstractList<E>(), RandomAccess {
    private var fromIndex: Int = 0
    private var _size: Int = 0

    fun move(fromIndex: Int, toIndex: Int) {
        checkRangeIndexes(fromIndex, toIndex, list.size)
        this.fromIndex = fromIndex
        this._size = toIndex -
fromIndex
    }

    override fun get(index: Int): E {
        checkElementIndex(index, _size)
        return
list[fromIndex + index]
    }

    override val size: Int get() = _size
}

/**
 * Provides ring buffer
implementation.
 * Buffer overflow is not allowed so [add] doesn't overwrite tail but raises an exception.
 */
private class RingBuffer<T>(private val buffer: Array<Any?>, filledSize: Int) : AbstractList<T>(),
RandomAccess {
    init {
        require(filledSize >= 0) { "ring buffer filled size should not be negative but it is
$filledSize" }
        require(filledSize <= buffer.size) { "ring buffer filled size: $filledSize cannot be larger than
the buffer size: ${buffer.size}" }
    }

    constructor(capacity: Int) : this(arrayOfNulls<Any?>(capacity), 0)

    private val capacity = buffer.size
    private var startIndex: Int = 0
    override var size: Int = filledSize

    private set

    override fun get(index: Int): T {
        checkElementIndex(index, size)
        @Suppress("UNCHECKED_CAST")
        return buffer[startIndex.forward(index)] as T
    }

    fun isFull() =
size == capacity

    override fun iterator(): Iterator<T> = object : AbstractIterator<T>() {
        private var count
= size
        private var index = startIndex

        override fun computeNext() {
            if (count == 0) {
                done()
            } else {
                @Suppress("UNCHECKED_CAST")
                setNext(buffer[index] as
T)
                index = index.forward(1)
                count--
            }
        }
    }

    @Suppress("UNCHECKED_CAST")
    override fun <T> toArray(array: Array<T>): Array<T> {
        val
result: Array<T?> =
            if (array.size < this.size) array.copyOf(this.size) else array as Array<T?>
        val
size = this.size
        var widx = 0
        var idx = startIndex
        while (widx < size && idx < capacity) {
            result[widx] = buffer[idx] as T
            widx++
            idx++
        }
        idx = 0
        while (widx <
size) {
            result[widx] = buffer[idx] as T
            widx++
            idx++
        }
        if (result.size >
this.size) result[this.size] = null
        return result as Array<T>
    }

    override fun toArray(): Array<Any?> {
        return toArray(arrayOfNulls(size))
    }

    /**
     * Creates a new ring buffer with the capacity equal to
the minimum of [maxCapacity] and 1.5 * [capacity].
     * The returned ring buffer contains the same elements as
this ring buffer.
     */
    fun expanded(maxCapacity: Int): RingBuffer<T> {
        val newCapacity = (capacity +

```

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(capacity shr 1) + 1).coerceAtMost(maxCapacity))\n    val newBuffer = if (startIndex == 0)
buffer.copyOf(newCapacity) else toArray(arrayOfNulls(newCapacity))\n    return RingBuffer(newBuffer, size)\n
}\n\n /**\n * Add [element] to the buffer or fail with [IllegalStateException] if no free space available in the
buffer\n */\n fun add(element: T) {\n    if (isFull()) {\n        throw IllegalStateException("ring buffer is
full")\n    }\n    buffer[startIndex.forward(size)] = element\n    size++\n }\n\n /**\n * Removes [n]
first elements from the buffer or fails with [IllegalArgumentException] if not enough elements in the buffer to
remove\n */\n fun removeFirst(n: Int) {\n    require(n >= 0) { "n shouldn't be negative but it is $n" }\n
require(n <= size) { "n shouldn't be greater than the buffer size: n = $n, size = $size" }\n    if (n > 0) {\n
val start = startIndex\n        val end = start.forward(n)\n        if (start > end) {\n            buffer.fill(null, start,
capacity)\n            buffer.fill(null, 0, end)\n        } else {\n            buffer.fill(null, start, end)\n        }\n
startIndex = end\n        size -= n\n    }\n }\n\n @Suppress("NOTHING_TO_INLINE")\n private
inline fun Int.forward(n: Int): Int = (this + n) % capacity\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n// UByteArray
=====\n\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n    array: UByteArray, left: Int, right: Int): Int {\n    var i = left\n
var j = right\n    val pivot = array[(left + right) / 2]\n    while (i <= j) {\n        while (array[i] < pivot)\n            i++\n
while (array[j] > pivot)\n            j--\n        if (i <= j) {\n            val tmp = array[i]\n            array[i] = array[j]\n
array[j] = tmp\n            i++\n            j--\n        }\n    }\n    return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n    array: UByteArray, left: Int, right: Int) {\n    val index = partition(array, left, right)\n    if (left < index
- 1)\n        quickSort(array, left, index - 1)\n    if (index < right)\n        quickSort(array, index, right)\n}\n\n//
UShortArray
=====\n\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n    array: UShortArray, left: Int, right: Int): Int {\n    var i = left\n
var j = right\n    val pivot = array[(left + right) / 2]\n    while (i <= j) {\n        while (array[i] < pivot)\n            i++\n
while (array[j] > pivot)\n            j--\n        if (i <= j) {\n            val tmp = array[i]\n            array[i] = array[j]\n
array[j] = tmp\n            i++\n            j--\n        }\n    }\n    return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n    array: UShortArray, left: Int, right: Int) {\n    val index = partition(array, left, right)\n    if (left <
index - 1)\n        quickSort(array, left, index - 1)\n    if (index < right)\n        quickSort(array, index, right)\n}\n\n//
UIntArray
=====\n\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n    array: UIntArray, left: Int, right: Int): Int {\n    var i = left\n
var j = right\n    val pivot = array[(left + right) / 2]\n    while (i <= j) {\n        while (array[i] < pivot)\n            i++\n
while (array[j] > pivot)\n            j--\n        if (i <= j) {\n            val tmp = array[i]\n            array[i] = array[j]\n
array[j] = tmp\n            i++\n            j--\n        }\n    }\n    return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n    array: UIntArray, left: Int, right: Int) {\n    val index = partition(array, left, right)\n    if (left < index
- 1)\n        quickSort(array, left, index - 1)\n    if (index < right)\n        quickSort(array, index, right)\n}\n\n//
ULongArray
=====\n\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n    array: ULongArray, left: Int, right: Int): Int {\n    var i = left\n
var j = right\n    val pivot = array[(left + right) / 2]\n    while (i <= j) {\n        while (array[i] < pivot)\n            i++\n
while (array[j] > pivot)\n            j--\n        if (i <= j) {\n            val tmp = array[i]\n            array[i] = array[j]\n
array[j] = tmp\n            i++\n            j--\n        }\n    }\n    return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n    array: ULongArray, left: Int, right: Int) {\n    val index = partition(array, left, right)\n    if (left < index
- 1)\n        quickSort(array, left, index - 1)\n    if (index < right)\n        quickSort(array, index, right)\n}\n\n//
Interfaces
=====\n\n/**\n * Sorts the given array using qsort algorithm.\n */\n\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:

```

```

UByteArray, fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex -
1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UShortArray, fromIndex: Int, toIndex: Int) =
quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UIntArray,
fromIndex: Int, toIndex: Int) = quickSort(array, fromIndex, toIndex -
1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: ULongArray, fromIndex: Int, toIndex: Int) =
quickSort(array, fromIndex, toIndex - 1),"/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\n\n/**\n * Compares this
object with the specified object for order. Returns zero if this object is equal\n * to the specified [other] object, a
negative number if it's less than [other], or a positive number\n * if it's greater than [other].\n */\n * This function
delegates to [Comparable.compareTo] and allows to call it in infix form.\n
*/\n@InlineOnly\n@SinceKotlin("1.6")\npublic inline infix fun <T> Comparable<T>.compareTo(other: T): Int
=\n    this.compareTo(other)\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.contracts\n\nimport kotlin.internal.ContractsDsl\n\nimport
kotlin.internal.InlineOnly\n\n/**\n * This marker distinguishes the experimental contract declaration API and is
used to opt-in for that feature\n * when declaring contracts of user functions.\n */\n * Any usage of a declaration
annotated with `@ExperimentalContracts` must be accepted either by\n * annotating that usage with the [OptIn]
annotation, e.g. `@OptIn(ExperimentalContracts::class)`,\n * or by using the compiler argument `-opt-
in=kotlin.contracts.ExperimentalContracts`.\n
*/\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@RequiresOptIn\n@MustBeDocumente
d\npublic annotation class ExperimentalContracts\n\n/**\n * Provides a scope, where the functions of the contract
DSL, such as [returns], [callsInPlace], etc.,\n * can be used to describe the contract of a function.\n */\n * This type is
used as a receiver type of the lambda function passed to the [contract] function.\n */\n * @see contract\n
*/\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic interface ContractBuilder {\n    /**\n
 * Describes a situation when a function returns normally, without any exceptions thrown.\n */\n    * Use
[SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n */\n    * //
@sample samples.contracts.returnsContract\n    @ContractsDsl public fun returns(): Returns\n\n    /**\n
 * Describes a situation when a function returns normally with the specified return [value].\n */\n    * The possible
values of [value] are limited to `true`, `false` or `null`.\n */\n    * Use [SimpleEffect.implies] function to describe a
conditional effect that happens in such case.\n */\n    * // @sample samples.contracts.returnsTrueContract\n
// @sample samples.contracts.returnsFalseContract\n // @sample samples.contracts.returnsNullContract\n
@ContractsDsl public fun returns(value: Any?): Returns\n\n    /**\n
 * Describes a situation when a function
returns normally with any value that is not `null`.\n */\n    * Use [SimpleEffect.implies] function to describe a
conditional effect that happens in such case.\n */\n    * // @sample
samples.contracts.returnsNotNullContract\n    @ContractsDsl public fun returnsNotNull(): ReturnsNotNull\n\n
/**\n
 * Specifies that the function parameter [lambda] is invoked in place.\n */\n    * This contract specifies
that:\n */\n    * 1. the function [lambda] can only be invoked during the call of the owner function,\n */\n    * and it won't be
invoked after that owner function call is completed;\n */\n    * 2. _(optionally)_ the function [lambda] is invoked the
amount of times specified by the [kind] parameter,\n */\n    * see the [InvocationKind] enum for possible values.\n
*/\n    * A function declaring the `callsInPlace` effect must be _inline_.\n */\n    * // @sample
samples.contracts.callsInPlaceAtMostOnceContract\n    * @sample
samples.contracts.callsInPlaceAtLeastOnceContract\n    * @sample
samples.contracts.callsInPlaceExactlyOnceContract\n    * @sample
samples.contracts.callsInPlaceUnknownContract\n    */\n    @ContractsDsl public fun <R> callsInPlace(lambda:
Function<R>, kind: InvocationKind = InvocationKind.UNKNOWN): CallsInPlace\n}\n\n/**\n * Specifies how
many times a function invokes its function parameter in place.\n */\n * See [ContractBuilder.callsInPlace] for the
details of the call-in-place function contract.\n

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*\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic enum class InvocationKind {\n
/**\n * A function parameter will be invoked one time or not invoked at all.\n */\n // @sample
samples.contracts.callsInPlaceAtMostOnceContract\n @ContractsDsl AT_MOST_ONCE,\n\n /**\n * A
function parameter will be invoked one or more times.\n */\n // @sample
samples.contracts.callsInPlaceAtLeastOnceContract\n @ContractsDsl AT_LEAST_ONCE,\n\n /**\n * A
function parameter will be invoked exactly one time.\n */\n // @sample
samples.contracts.callsInPlaceExactlyOnceContract\n @ContractsDsl EXACTLY_ONCE,\n\n /**\n * A
function parameter is called in place, but it's unknown how many times it can be called.\n */\n // @sample
samples.contracts.callsInPlaceUnknownContract\n @ContractsDsl UNKNOWN\n}\n\n/**\n * Specifies the
contract of a function.\n * The contract description must be at the beginning of a function and have at least one
effect.\n * Only the top-level functions can have a contract for now.\n * @param builder the lambda where
the contract of a function is described with the help of the [ContractBuilder] members.\n */\n // @sample
samples.contracts.returnsContract\n * @sample samples.contracts.returnsTrueContract\n * @sample
samples.contracts.returnsFalseContract\n * @sample samples.contracts.returnsNullContract\n * @sample
samples.contracts.returnsNotNullContract\n * @sample samples.contracts.callsInPlaceAtMostOnceContract\n *
@sample samples.contracts.callsInPlaceAtLeastOnceContract\n * @sample
samples.contracts.callsInPlaceExactlyOnceContract\n * @sample
samples.contracts.callsInPlaceUnknownContract\n */\n@ContractsDsl\n@ExperimentalContracts\n@InlineOnly\n@
SinceKotlin("1.3")\n@Suppress("UNUSED_PARAMETER")\npublic inline fun contract(builder:
ContractBuilder.() -> Unit) { }\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\n/**\n * Marks coroutine context element that
intercepts coroutine continuations.\n * The coroutines framework uses [ContinuationInterceptor.Key] to retrieve the
interceptor and\n * intercepts all coroutine continuations with [interceptContinuation] invocations.\n *
[ContinuationInterceptor] behaves like a [polymorphic element][AbstractCoroutineContextKey], meaning that\n *
its implementation delegates [get][CoroutineContext.Element.get] and
[minusKey][CoroutineContext.Element.minusKey]\n * to [getPolymorphicElement] and [minusPolymorphicKey]
respectively.\n * [ContinuationInterceptor] subtypes can be extracted from the coroutine context using either
[ContinuationInterceptor.Key]\n * or subtype key if it extends [AbstractCoroutineContextKey].\n
*/\n\n@SinceKotlin("1.3")\npublic interface ContinuationInterceptor : CoroutineContext.Element {\n
/**\n * The key that defines *the* context interceptor.\n */\n companion object Key :
CoroutineContext.Key<ContinuationInterceptor>\n\n /**\n * Returns continuation that wraps the original
[continuation], thus intercepting all resumptions.\n * This function is invoked by coroutines framework when
needed and the resulting continuations are\n * cached internally per each instance of the original [continuation].\n
*/\n * This function may simply return original [continuation] if it does not want to intercept this particular
continuation.\n */\n * When the original [continuation] completes, coroutine framework invokes
[releaseInterceptedContinuation]\n * with the resulting continuation if it was intercepted, that is if
`interceptContinuation` had previously\n * returned a different continuation instance.\n */\n public fun <T>
interceptContinuation(continuation: Continuation<T>): Continuation<T>\n\n /**\n * Invoked for the
continuation instance returned by [interceptContinuation] when the original\n * continuation completes and will
not be used anymore. This function is invoked only if [interceptContinuation]\n * had returned a different
continuation instance from the one it was invoked with.\n */\n * Default implementation does nothing.\n */\n
*/\n * @param continuation Continuation instance returned by this interceptor's [interceptContinuation] invocation.\n
*/\n public fun releaseInterceptedContinuation(continuation: Continuation<*>) {\n
/* do nothing by default
*/\n }\n\n public override operator fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):
E? {\n // getPolymorphicKey specialized for ContinuationInterceptor key\n
@OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n
@Suppress("UNCHECKED_CAST")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else

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null\n    }\n    @Suppress(\"UNCHECKED_CAST\")\n    return if (ContinuationInterceptor === key) this as
E else null\n    }\n\n    public override fun minusKey(key: CoroutineContext.Key<*>): CoroutineContext {\n
// minusPolymorphicKey specialized for ContinuationInterceptor key\n
@OptIn(ExperimentalStdlibApi::class)\n    if (key is AbstractCoroutineContextKey<*, *>) {\n        return if
(key.isSubKey(this.key) && key.tryCast(this) != null) EmptyCoroutineContext else this\n    }\n    return if
(ContinuationInterceptor === key) EmptyCoroutineContext else this\n    }\n}\n\"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\n/**\n *
Persistent context for the coroutine. It is an indexed set of [Element] instances.\n * An indexed set is a mix between
a set and a map.\n * Every element in this set has a unique [Key].\n */\n\n@SinceKotlin(\"1.3\")\npublic interface
CoroutineContext {\n    /**\n     * Returns the element with the given [key] from this context or `null`.\n     */\n    public operator fun <E : Element> get(key: Key<E>): E?\n\n    /**\n     * Accumulates entries of this context
starting with [initial] value and applying [operation]\n     * from left to right to current accumulator value and each
element of this context.\n     */\n    public fun <R> fold(initial: R, operation: (R, Element) -> R): R\n\n    /**\n     *
Returns a context containing elements from this context and elements from other [context].\n     * The elements
from this context with the same key as in the other one are dropped.\n     */\n    public operator fun plus(context:
CoroutineContext): CoroutineContext =\n        if (context === EmptyCoroutineContext) this else // fast path -- avoid
lambda creation\n        context.fold(this) { acc, element ->\n            val removed =
acc.minusKey(element.key)\n            if (removed === EmptyCoroutineContext) element else {\n                //
make sure interceptor is always last in the context (and thus is fast to get when present)\n                val interceptor
= removed[ContinuationInterceptor]\n                if (interceptor == null) CombinedContext(removed, element) else
{\n                    val left = removed.minusKey(ContinuationInterceptor)\n                    if (left ===
EmptyCoroutineContext) CombinedContext(element, interceptor) else\n                    CombinedContext(CombinedContext(left, element), interceptor)\n                }\n            }\n        }\n\n    /**\n     * Returns a context containing elements from this context, but without an element with\n     * the specified [key].\n     */\n    public fun minusKey(key: Key<*>): CoroutineContext\n}\n\n/**\n * Key for the elements of
[CoroutineContext]. [E] is a type of element with this key.\n */\n\npublic interface Key<E : Element>\n\n/**\n * An element of the [CoroutineContext]. An element of the coroutine context is a singleton context by itself.\n */\n\npublic interface Element : CoroutineContext {\n    /**\n     * A key of this coroutine context element.\n     */\n    public val key: Key<*>\n\n    public override operator fun <E : Element> get(key: Key<E>): E? =\n        @Suppress(\"UNCHECKED_CAST\")\n        if (this.key == key) this as E else null\n\n    public override
fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n        operation(initial, this)\n\n    public override
fun minusKey(key: Key<*>): CoroutineContext =\n        if (this.key == key) EmptyCoroutineContext else this\n}\n}\n\"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.CoroutineContext.Element\nimport
kotlin.coroutines.CoroutineContext.Key\n\n/**\n * Base class for [CoroutineContext.Element] implementations.\n */\n\n@SinceKotlin(\"1.3\")\npublic abstract class AbstractCoroutineContextElement(public override val key:
Key<*>) : Element\n\n/**\n * Base class for [CoroutineContext.Key] associated with polymorphic
[CoroutineContext.Element] implementation.\n * Polymorphic element implementation implies delegating its
[get][Element.get] and [minusKey][Element.minusKey]\n * to [getPolymorphicElement] and
[minusPolymorphicKey] respectively.\n * Polymorphic elements can be extracted from the coroutine context
using both element key and its supertype key.\n * Example of polymorphic elements:\n * ```\n * open class
BaseElement : CoroutineContext.Element {\n *     companion object Key : CoroutineContext.Key<BaseElement>\n *
override val key: CoroutineContext.Key<*> get() = Key\n *     // It is important to use getPolymorphicKey and
minusPolymorphicKey\n *     override fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):
E? = getPolymorphicElement(key)\n *     override fun minusKey(key: CoroutineContext.Key<*>):
CoroutineContext = minusPolymorphicKey(key)\n * }\n * class DerivedElement : BaseElement() {\n *

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companion object Key : AbstractCoroutineContextKey<BaseElement, DerivedElement>(BaseElement, { it as?
DerivedElement })\n * }\n * // Now it is possible to query both `BaseElement` and `DerivedElement`\n *
someContext[BaseElement] // Returns BaseElement?, non-null both for BaseElement and DerivedElement
instances\n * someContext[DerivedElement] // Returns DerivedElement?, non-null only for DerivedElement
instance\n * ```\n * @param B base class of a polymorphic element\n * @param baseKey an instance of base key\n
* @param E element type associated with the current key\n * @param safeCast a function that can safely cast
abstract [CoroutineContext.Element] to the concrete [E] type\n * and return the element if it is a subtype
of [E] or `null` otherwise.\n * /\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public abstract class
AbstractCoroutineContextKey<B : Element, E : B>(\n baseKey: Key<B>,\n private val safeCast: (element:
Element) -> E?)\n ) : Key<E> {\n private val topmostKey: Key<*> = if (baseKey is
AbstractCoroutineContextKey<*, *>) baseKey.topmostKey else baseKey\n\n internal fun tryCast(element:
Element): E? = safeCast(element)\n internal fun isSubKey(key: Key<*>): Boolean = key === this || topmostKey
=== key\n}\n\n/**\n * Returns the current element if it is associated with the given [key] in a polymorphic manner
or `null` otherwise.\n * This method returns non-null value if either [Element.key] is equal to the given [key] or if
the [key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See
[AbstractCoroutineContextKey] for the example of usage.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public fun <E : Element>
Element.getPolymorphicElement(key: Key<E>): E? {\n if (key is AbstractCoroutineContextKey<*, *>) {\n
@Suppress("UNCHECKED_CAST")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null\n
}\n @Suppress("UNCHECKED_CAST")\n return if (this.key === key) this as E else null\n}\n\n/**\n *
Returns empty coroutine context if the element is associated with the given [key] in a polymorphic manner\n * or
`null` otherwise.\n * This method returns empty context if either [Element.key] is equal to the given [key] or if the
[key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See
[AbstractCoroutineContextKey] for the example of usage.\n
*\n @SinceKotlin("1.3")\n @ExperimentalStdlibApi\n public fun Element.minusPolymorphicKey(key: Key<*>):
CoroutineContext {\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key)
&& key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if (this.key === key)
EmptyCoroutineContext else this\n}\n\n/**\n * An empty coroutine context.\n * /\n @SinceKotlin("1.3")\n public
object EmptyCoroutineContext : CoroutineContext, Serializable {\n private const val serialVersionUID: Long =
0\n private fun readResolve(): Any = EmptyCoroutineContext\n\n public override fun <E : Element> get(key:
Key<E>): E? = null\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R = initial\n
public override fun plus(context: CoroutineContext): CoroutineContext = context\n public override fun minusKey(key:
Key<*>): CoroutineContext = this\n public override fun hashCode(): Int = 0\n public override fun toString():
String = "EmptyCoroutineContext"\n}\n\n//----- internal impl ----- \n\n// this class is not
exposed, but is hidden inside implementations\n// this is a left-biased list, so that `plus` works
naturally\n @SinceKotlin("1.3")\n internal class CombinedContext(\n private val left: CoroutineContext,\n
private val element: Element\n ) : CoroutineContext, Serializable {\n\n override fun <E : Element> get(key:
Key<E>): E? {\n var cur = this\n while (true) {\n cur.element[key]?.let { return it }\n val next
= cur.left\n if (next is CombinedContext) {\n cur = next\n } else {\n return
next[key]\n }\n }\n\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n
operation(left.fold(initial, operation), element)\n\n public override fun minusKey(key: Key<*>):
CoroutineContext {\n element[key]?.let { return left }\n val newLeft = left.minusKey(key)\n return
when {\n newLeft === left -> this\n newLeft === EmptyCoroutineContext -> element\n else ->
CombinedContext(newLeft, element)\n }\n }\n\n private fun size(): Int {\n var cur = this\n var size
= 2\n while (true) {\n cur = cur.left as? CombinedContext ?: return size\n size++\n }\n }\n\n
private fun contains(element: Element): Boolean =\n get(element.key) == element\n\n private fun
containsAll(context: CombinedContext): Boolean {\n var cur = context\n while (true) {\n if
(!contains(cur.element)) return false\n val next = cur.left\n if (next is CombinedContext) {\n

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cur = next\n      } else {\n          return contains(next as Element)\n      }\n  }\n\n  override fun
equals(other: Any?): Boolean =\n    this === other || other is CombinedContext && other.size() == size() &&
other.containsAll(this)\n\n  override fun hashCode(): Int = left.hashCode() + element.hashCode()\n\n  override
fun toString(): String =\n    "[" + fold("") { acc, element ->\n        if (acc.isEmpty()) element.toString() else
"\$acc, \$element"\n    } + "]\n\n  private fun writeReplace(): Any {\n    val n = size()\n    val elements =
arrayOfNulls<CoroutineContext>(n)\n    var index = 0\n    fold(Unit) { _, element -> elements[index++] =
element }\n    check(index == n)\n    @Suppress("UNCHECKED_CAST")\n    return Serialized(elements
as Array<CoroutineContext>)\n  }\n\n  private class Serialized(val elements: Array<CoroutineContext>) :
Serializable {\n    companion object {\n        private const val serialVersionUID: Long = 0L\n    }\n\n    private fun readResolve(): Any = elements.fold(EmptyCoroutineContext, CoroutineContext::plus)\n  }\n\n  "/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code
is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("IntrinsicsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.coroutines.intrinsics\n\nimport kotlin.contracts.*\nimport kotlin.coroutines.*\nimport
kotlin.internal.InlineOnly\n\n/**\n * Obtains the current continuation instance inside suspend functions and either
suspends\n * currently running coroutine or returns result immediately without suspension.\n * \n * If the [block]
returns the special [COROUTINE_SUSPENDED] value, it means that suspend function did suspend the execution
and will\n * not return any result immediately. In this case, the [Continuation] provided to the [block] shall be\n *
resumed by invoking [Continuation.resumeWith] at some moment in the\n * future when the result becomes
available to resume the computation.\n * \n * Otherwise, the return value of the [block] must have a type assignable
to [T] and represents the result of this suspend function.\n * It means that the execution was not suspended and the
[Continuation] provided to the [block] shall not be invoked.\n * As the result type of the [block] is declared as
`Any?` and cannot be correctly type-checked,\n * its proper return type remains on the conscience of the suspend
function's author.\n * \n * Invocation of [Continuation.resumeWith] resumes coroutine directly in the invoker's
thread without going through the\n * [ContinuationInterceptor] that might be present in the coroutine's
[CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation context is established.\n *
[Continuation.intercepted] can be used to acquire the intercepted continuation.\n * \n * Note that it is not
recommended to call either [Continuation.resume] nor [Continuation.resumeWithException] functions
synchronously\n * in the same stackframe where suspension function is run. Use [suspendCoroutine] as a safer way
to obtain current\n * continuation instance.\n
*/\n\n@SinceKotlin("1.3")\n@InlineOnly\n@Suppress("UNUSED_PARAMETER",
"RedundantSuspendModifier")\npublic suspend inline fun <T>
suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T>) -> Any?): T {\n  contract {
callsInPlace(block, InvocationKind.EXACTLY_ONCE) }\n  throw NotImplementedError("Implementation of
suspendCoroutineUninterceptedOrReturn is intrinsic")\n}\n\n/**\n * This value is used as a return value of
[suspendCoroutineUninterceptedOrReturn] `block` argument to state that\n * the execution was suspended and will
not return any result immediately.\n * \n * **Note: this value should not be used in general code.** Using it outside
of the context of\n * `suspendCoroutineUninterceptedOrReturn` function return value (including, but not limited
to,\n * storing this value in other properties, returning it from other functions, etc)\n * can lead to unspecified
behavior of the code.\n * \n * // It is implemented as property with getter to avoid ProGuard <clinit> problem with
multifile IntrinsicsKt class\n\n@SinceKotlin("1.3")\npublic val COROUTINE_SUSPENDED: Any get() =
CoroutineSingletons.COROUTINE_SUSPENDED\n\n// Using enum here ensures two important properties:\n// 1.
It makes SafeContinuation serializable with all kinds of serialization frameworks (since all of them natively support
enums)\n// 2. It improves debugging experience, since you clearly see toString() value of those objects and what
package they come from\n\n@SinceKotlin("1.3")\n@PublishedApi // This class is Published API via serialized
representation of SafeContinuation, don't rename/move\n\ninternal enum class CoroutineSingletons {\n
COROUTINE_SUSPENDED, UNDECIDED, RESUMED }\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that

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can be found in the license/LICENSE.txt file.

```


    *^/\n\package kotlin.experimental\n\n/** Performs a bitwise AND
    operation between the two values.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun
    Byte.and(other: Byte): Byte = (this.toInt() and other.toInt()).toByte()\n\n/** Performs a bitwise OR operation
    between the two values.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun
    Byte.or(other: Byte): Byte = (this.toInt() or other.toInt()).toByte()\n\n/** Performs a bitwise XOR operation
    between the two values.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun
    Byte.xor(other: Byte): Byte = (this.toInt() xor other.toInt()).toByte()\n\n/** Inverts the bits in this value.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte =
    (this.toInt().inv()).toByte()\n\n/** Performs a bitwise AND operation between the two values.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short =
    (this.toInt() and other.toInt()).toShort()\n\n/** Performs a bitwise OR operation between the two values.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short =
    (this.toInt() or other.toInt()).toShort()\n\n/** Performs a bitwise XOR operation between the two values.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short =
    (this.toInt() xor other.toInt()).toShort()\n\n/** Inverts the bits in this value.
    *^/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short =
    (this.toInt().inv()).toShort()\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
    contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
    license/LICENSE.txt file.\n *^/\n\package kotlin.experimental\n\n/**\n * The experimental marker for type
    inference augmenting annotations.\n *^/\n * Any usage of a declaration annotated with
    `@ExperimentalTypeInference` must be accepted either by\n * annotating that usage with the [OptIn] annotation,
    e.g. `@OptIn(ExperimentalTypeInference::class)`,\n * or by using the compiler argument `-opt-
    in=kotlin.experimental.ExperimentalTypeInference`.\n *^/\n@RequiresOptIn(level =
    RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(A
    nnotationTarget.ANNOTATION_CLASS)\n@SinceKotlin("1.3")\npublic annotation class
    ExperimentalTypeInference\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
    contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
    license/LICENSE.txt file.\n *^/\n\package kotlin.internal\n\n/**\n * Specifies that the corresponding type should be
    ignored during type inference.\n
    *^/\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
    NoInfer\n\n/**\n * Specifies that the constraint built for the type during type inference should be an equality one.\n
    *^/\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
    Exact\n\n/**\n * Specifies that a corresponding member has the lowest priority in overload resolution.\n
    *^/\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,
    AnnotationTarget.CONSTRUCTOR)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
    LowPriorityInOverloadResolution\n\n/**\n * Specifies that the corresponding member has the highest priority in
    overload resolution. Effectively this means that\n * an extension annotated with this annotation will win in overload
    resolution over a member with the same signature.\n *^/\n@Target(AnnotationTarget.FUNCTION,
    AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
    HidesMembers\n\n/**\n * The value of this type parameter should be mentioned in input types (argument types,
    receiver type or expected type).\n
    *^/\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal
    annotation class OnlyInputTypes\n\n/**\n * Specifies that this function should not be called directly without
    inlining\n *^/\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,
    AnnotationTarget.PROPERTY_GETTER,
    AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
    InlineOnly\n\n/**\n * Specifies that this declaration can have dynamic receiver type.\n
    *^/\n@Target(AnnotationTarget.FUNCTION,


```



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AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class
DynamicExtension\n\n/**\n * The value of this parameter should be a property reference expression (`this::foo`),
referencing a `lateinit` property,\n * the backing field of which is accessible at the point where the corresponding
argument is passed.\n
*/\n@Target(AnnotationTarget.VALUE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\n@SinceK
otlin("1.2")\ninternal annotation class AccessibleLateinitPropertyLiteral\n\n/**\n * Specifies that this declaration is
only completely supported since the specified version.\n *\n * The Kotlin compiler of an earlier version is going to
report a diagnostic on usages of this declaration.\n * The diagnostic message can be specified with [message], or via
[errorCode] (takes less space, but might not be immediately clear\n * to the user). The diagnostic severity can be
specified with [level]: WARNING/ERROR mean that either a warning or an error\n * is going to be reported,
HIDDEN means that the declaration is going to be removed from resolution completely.\n *\n * [versionKind]
specifies which version should be compared with the [version] value, when compiling the usage of the annotated
declaration.\n * Note that prior to 1.2, only [RequireKotlinVersionKind.LANGUAGE_VERSION] was supported,
so the Kotlin compiler before 1.2 is going to\n * treat any [RequireKotlin] as if it requires the language version.
Since 1.2, the Kotlin compiler supports\n * [RequireKotlinVersionKind.LANGUAGE_VERSION],
[RequireKotlinVersionKind.COMPILER_VERSION] and [RequireKotlinVersionKind.API_VERSION].\n * If the
actual value of [versionKind] is something different (e.g. a new version kind, added in future versions of Kotlin),\n *
Kotlin 1.2 is going to ignore this [RequireKotlin] altogether, where as Kotlin before 1.2 is going to treat this as a
requirement\n * on the language version.\n *\n * This annotation is erased at compile time; its arguments are stored
in a more compact form in the Kotlin metadata.\n */\n@Target(AnnotationTarget.CLASS,
AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR,
AnnotationTarget.TYPEALIAS)\n@Retention(AnnotationRetention.SOURCE)\n@Repeatable\n@SinceKotlin("1.
2")\ninternal annotation class RequireKotlin(\n    val version: String,\n    val message: String = "",\n    val level:
DeprecationLevel = DeprecationLevel.ERROR,\n    val versionKind: RequireKotlinVersionKind =
RequireKotlinVersionKind.LANGUAGE_VERSION,\n    val errorCode: Int = -1\n)\n\n/**\n * The kind of the
version that is required by [RequireKotlin].\n */\n@SinceKotlin("1.2")\ninternal enum class
RequireKotlinVersionKind {\n    LANGUAGE_VERSION,\n    COMPILER_VERSION,\n
API_VERSION,\n}\n\n/**\n * Specifies that this declaration is a part of special DSL, used for constructing
function's contract.\n */\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.2")\ninternal annotation
class ContractsDsl\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Standard
property delegates.\n */\npublic object Delegates {\n    /**\n     * Returns a property delegate for a read/write
property with a non-`null` value that is initialized not during\n     * object construction time but at a later time.
Trying to read the property before the initial value has been\n     * assigned results in an exception.\n     *\n     *
@sample samples.properties.Delegates.notNullDelegate\n     */\n    public fun <T : Any> notNull():
ReadWriteProperty<Any?, T> = NotNullVar()\n\n    /**\n     * Returns a property delegate for a read/write property
that calls a specified callback function when changed.\n     * @param initialValue the initial value of the property.\n
     * @param onChange the callback which is called after the change of the property is made. The value of the
property\n     * has already been changed when this callback is invoked.\n     *\n     * @sample
samples.properties.Delegates.observableDelegate\n     */\n    public inline fun <T> observable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Unit):\n
ReadWriteProperty<Any?, T> =\n        object : ObservableProperty<T>(initialValue) {\n            override fun
afterChange(property: KProperty<*>, oldValue: T, newValue: T) = onChange(property, oldValue, newValue)\n
        }\n\n    /**\n     * Returns a property delegate for a read/write property that calls a specified callback function when
changed,\n     * allowing the callback to veto the modification.\n     * @param initialValue the initial value of the
property.\n     * @param onChange the callback which is called before a change to the property value is attempted.\n
     * The value of the property hasn't been changed yet, when this callback is invoked.\n     * If the callback returns

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`true` the value of the property is being set to the new value,\n * and if the callback returns `false` the new value
is discarded and the property remains its old value.\n * \n * @sample
samples.properties.Delegates.vetoableDelegate\n * @sample
samples.properties.Delegates.throwVetoableDelegate\n */\n public inline fun <T> vetoable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Boolean):\n
ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n override fun
beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue,
newValue)\n }\n\n\nprivate class NotNullVar<T : Any>(): ReadWriteProperty<Any?, T> {\n private var
value: T? = null\n public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n return value
?: throw IllegalStateException("Property ${property.name} should be initialized before get.")\n }\n\n public
override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n this.value = value\n
}\n}\n\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Base interface that can be used for
implementing property delegates of read-only properties.\n * This is provided only for convenience; you don't
have to extend this interface\n * as long as your property delegate has methods with the same signatures.\n *
@param T the type of object which owns the delegated property.\n * @param V the type of the property value.\n
*/\n\npublic fun interface ReadOnlyProperty<in T, out V> {\n /**\n * Returns the value of the property for the
given object.\n * @param thisRef the object for which the value is requested.\n * @param property the
metadata for the property.\n * @return the property value.\n */\n public operator fun getValue(thisRef: T,
property: KProperty<*>): V\n\n /**\n * Base interface that can be used for implementing property delegates of
read-write properties.\n * This is provided only for convenience; you don't have to extend this interface\n * as
long as your property delegate has methods with the same signatures.\n * @param T the type of object which
owns the delegated property.\n * @param V the type of the property value.\n */\n\npublic interface
ReadWriteProperty<in T, V> : ReadOnlyProperty<T, V> {\n /**\n * Returns the value of the property for the
given object.\n * @param thisRef the object for which the value is requested.\n * @param property the
metadata for the property.\n * @return the property value.\n */\n public override operator fun
getValue(thisRef: T, property: KProperty<*>): V\n\n /**\n * Sets the value of the property for the given
object.\n * @param thisRef the object for which the value is requested.\n * @param property the metadata for
the property.\n * @param value the value to set.\n */\n public operator fun setValue(thisRef: T, property:
KProperty<*>, value: V)\n\n\n /**\n * Base interface that can be used for implementing property delegate
providers.\n * This is provided only for convenience; you don't have to extend this interface\n * as long as your
delegate provider has a method with the same signature.\n * @param T the type of object which owns the
delegated property.\n * @param D the type of property delegates this provider provides.\n
*/\n\n@SinceKotlin("1.4")\n\npublic fun interface PropertyDelegateProvider<in T, out D> {\n /**\n * Returns the
delegate of the property for the given object.\n * This function can be used to extend the logic of creating
the object (e.g. perform validation checks)\n * to which the property implementation is delegated.\n *
@param thisRef the object for which property delegate is requested.\n * @param property the metadata for the
property.\n * @return the property delegate.\n */\n public operator fun provideDelegate(thisRef: T, property:
KProperty<*>): D\n\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n *
Implements the core logic of a property delegate for a read/write property that calls callback functions when
changed.\n * @param initialValue the initial value of the property.\n */\n\npublic abstract class
ObservableProperty<V>(initialValue: V) : ReadWriteProperty<Any?, V> {\n private var value = initialValue\n\n
/**\n * The callback which is called before a change to the property value is attempted.\n * The value of the
property hasn't been changed yet, when this callback is invoked.\n * If the callback returns `true` the value of the
property is being set to the new value,\n * and if the callback returns `false` the new value is discarded and the

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property remains its old value.\n    */\n    protected open fun beforeChange(property: KProperty<*>, oldValue: V,
newValue: V): Boolean = true\n    /**\n     * The callback which is called after the change of the property is made.
The value of the property\n     * has already been changed when this callback is invoked.\n     */\n    protected open
fun afterChange(property: KProperty<*>, oldValue: V, newValue: V): Unit {} \n\n    public override fun
getValue(thisRef: Any?, property: KProperty<*>): V {\n        return value\n    }\n\n    public override fun
setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n        val oldValue = this.value\n        if
(!beforeChange(property, oldValue, value)) {\n            return\n        }\n        this.value = value\n    }
afterChange(property, oldValue, value)\n    } }\n", /*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n */\n\n@file:Suppress("PackageDirectoryMismatch")\npackage
kotlin\n\nimport kotlin.reflect.*\n\n/**\n * An extension operator that allows delegating a read-only property of type
[V]\n * to a property reference to a property of type [V] or its subtype.\n * \n * @receiver A property reference to a
read-only or mutable property of type [V] or its subtype.\n * The reference is without a receiver, i.e. it either
references a top-level property or\n * has the receiver bound to it.\n * \n * Example:\n * \n * ```\n * class Login(val
username: String)\n * val defaultLogin = Login("Admin")\n * val defaultUsername by defaultLogin::username\n *
// equivalent to\n * val defaultUserName get() = defaultLogin.username\n * ```\n
*\n *\n * @SinceKotlin("1.4")\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>
KProperty0<V>.getValue(thisRef: Any?, property: KProperty<*>): V {\n    return get()\n}\n\n/**\n * An extension
operator that allows delegating a mutable property of type [V]\n * to a property reference to a mutable property of
the same type [V].\n * \n * @receiver A property reference to a mutable property of type [V].\n * The reference is
without a receiver, i.e. it either references a top-level property or\n * has the receiver bound to it.\n * \n * Example:\n
*\n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int = 0)\n * val defaultLogin =
Login("Admin")\n * var defaultLoginAttempts by defaultLogin::incorrectAttemptCounter\n * // equivalent to\n *
var defaultLoginAttempts: Int\n *     get() = defaultLogin.incorrectAttemptCounter\n *     set(value) {\n
defaultLogin.incorrectAttemptCounter = value }\n * ```\n
*\n *\n * @SinceKotlin("1.4")\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>
KMutableProperty0<V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n    set(value)\n}\n\n\n/**\n
* An extension operator that allows delegating a read-only member or extension property of type [V]\n * to a
property reference to a member or extension property of type [V] or its subtype.\n * \n * @receiver A property
reference to a read-only or mutable property of type [V] or its subtype.\n * The reference has an unbound receiver of
type [T].\n * \n * Example:\n * \n * ```\n * class Login(val username: String)\n * val Login.user by
Login::username\n * // equivalent to\n * val Login.user get() = this.username\n * ```\n
*\n *\n * @SinceKotlin("1.4")\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KProperty1<T,
V>.getValue(thisRef: T, property: KProperty<*>): V {\n    return get(thisRef)\n}\n\n\n/**\n * An extension
operator that allows delegating a mutable member or extension property of type [V]\n * to a property reference to a member
or extension mutable property of the same type [V].\n * \n * @receiver A property reference to a read-only or
mutable property of type [V] or its subtype.\n * The reference has an unbound receiver of type [T].\n * \n *
Example:\n * \n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int)\n * var Login.attempts
by Login::incorrectAttemptCounter\n * // equivalent to\n * var Login.attempts: Int\n *     get() =
this.incorrectAttemptCounter\n *     set(value) {\n this.incorrectAttemptCounter = value }\n * ```\n
*\n *\n * @SinceKotlin("1.4")\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KMutableProperty1<T,
V>.setValue(thisRef: T, property: KProperty<*>, value: V) {\n    set(thisRef, value)\n}\n", /*\n * Copyright 2010-
2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\nimport
kotlin.math.nextDown\n\n/**\n * An abstract class that is implemented by random number generator algorithms.\n
*\n * The companion object [Random.Default] is the default instance of [Random].\n * \n * To get a seeded instance
of random generator use [Random] function.\n * \n * @sample samples.random.Randoms.defaultRandom\n
*\n *\n * @SinceKotlin("1.3")\n */\npublic abstract class Random {\n\n    /**\n     * Gets the next random [bitCount] number

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of bits.\n * \n * Generates an `Int` whose lower [bitCount] bits are filled with random values and the remaining
upper bits are zero.\n * \n * @param bitCount number of bits to generate, must be in range 0..32, otherwise the
behavior is unspecified.\n * \n * @sample samples.random.Randoms.nextBits\n * \n public abstract fun
nextBits(bitCount: Int): Int\n\n /**\n * Gets the next random `Int` from the random number generator.\n * \n
* Generates an `Int` random value uniformly distributed between `Int.MIN_VALUE` and `Int.MAX_VALUE`
(inclusive).\n * \n * @sample samples.random.Randoms.nextInt\n * \n public open fun nextInt(): Int =
nextInt(32)\n\n /**\n * Gets the next random non-negative `Int` from the random number generator less than
the specified [until] bound.\n * \n * Generates an `Int` random value uniformly distributed between `0`
(inclusive) and the specified [until] bound (exclusive).\n * \n * @param until must be positive.\n * \n *
@throws IllegalArgumentException if [until] is negative or zero.\n * \n * @sample
samples.random.Randoms.nextIntFromUntil\n * \n public open fun nextInt(until: Int): Int = nextInt(0, until)\n\n
/**\n * Gets the next random `Int` from the random number generator in the specified range.\n * \n *
Generates an `Int` random value uniformly distributed between the specified [from] (inclusive) and [until]
(exclusive) bounds.\n * \n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n * @sample samples.random.Randoms.nextIntFromUntil\n * \n public open fun nextInt(from: Int, until:
Int): Int {\n    checkRangeBounds(from, until)\n    val n = until - from\n    if (n > 0 || n == Int.MIN_VALUE)
{\n        val rnd = if (n and -n == n) {\n            val bitCount = fastLog2(n)\n            nextBits(bitCount)\n
        } else {\n            var v: Int\n            do {\n                val bits = nextInt().ushr(1)\n                v = bits % n\n
            } while (bits - v + (n - 1) < 0)\n            v\n        }\n        return from + rnd\n    } else {\n        while
(true) {\n            val rnd = nextInt()\n            if (rnd in from until until) return rnd\n        }\n    }\n}\n\n
/**\n * Gets the next random `Long` from the random number generator.\n * \n * Generates a `Long` random
value uniformly distributed between `Long.MIN_VALUE` and `Long.MAX_VALUE` (inclusive).\n * \n *
@sample samples.random.Randoms.nextLong\n * \n public open fun nextLong(): Long =
nextInt().toLong().shl(32) + nextInt()\n\n /**\n * Gets the next random non-negative `Long` from the random
number generator less than the specified [until] bound.\n * \n * Generates a `Long` random value uniformly
distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n * \n * @param until must be
positive.\n * \n * @throws IllegalArgumentException if [until] is negative or zero.\n * \n * @sample
samples.random.Randoms.nextLongFromUntil\n * \n public open fun nextLong(until: Long): Long =
nextLong(0, until)\n\n /**\n * Gets the next random `Long` from the random number generator in the specified
range.\n * \n * Generates a `Long` random value uniformly distributed between the specified [from] (inclusive)
and [until] (exclusive) bounds.\n * \n * @throws IllegalArgumentException if [from] is greater than or equal to
[until].\n * \n * @sample samples.random.Randoms.nextLongFromUntil\n * \n public open fun
nextLong(from: Long, until: Long): Long {\n    checkRangeBounds(from, until)\n    val n = until - from\n
if (n > 0) {\n        val rnd: Long\n        if (n and -n == n) {\n            val nLow = n.toInt()\n            val nHigh
= (n ushr 32).toInt()\n            rnd = when {\n                nLow != 0 -> {\n                    val bitCount =
fastLog2(nLow)\n                    // toUInt().toLong()\n                    nextBits(bitCount).toLong() and
0xFFFF_FFFF\n                }\n                nHigh == 1 ->{\n                    // toUInt().toLong()\n
nextInt().toLong() and 0xFFFF_FFFF\n                } else -> {\n                    val bitCount = fastLog2(nHigh)\n
                    nextBits(bitCount).toLong().shl(32) + (nextInt().toLong() and 0xFFFF_FFFF)\n                }\n
            }\n        } else {\n            var v: Long\n            do {\n                val bits = nextLong().ushr(1)\n
                v = bits % n\n            } while (bits - v + (n - 1) < 0)\n            rnd = v\n        }\n        return from + rnd\n
    } else {\n        while (true) {\n            val rnd = nextLong()\n            if (rnd in from until until) return rnd\n
        }\n    }\n}\n\n /**\n * Gets the next random [Boolean] value.\n * \n * @sample
samples.random.Randoms.nextBoolean\n * \n public open fun nextBoolean(): Boolean = nextBits(1) != 0\n\n
/**\n * Gets the next random [Double] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n
*\n * @sample samples.random.Randoms.nextDouble\n * \n public open fun nextDouble(): Double =
doubleFromParts(nextBits(26), nextBits(27))\n\n /**\n * Gets the next random non-negative `Double` from the
random number generator less than the specified [until] bound.\n * \n * Generates a `Double` random value

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uniformly distributed between 0 (inclusive) and [until] (exclusive).\n * \n * @throws IllegalArgumentException
if [until] is negative or zero.\n * \n * @sample samples.random.Randoms.nextDoubleFromUntil\n * \n
public open fun nextDouble(until: Double): Double = nextDouble(0.0, until)\n\n /**\n * Gets the next random
`Double` from the random number generator in the specified range.\n * \n * Generates a `Double` random value
uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n * \n * [from]
and [until] must be finite otherwise the behavior is unspecified.\n * \n * @throws IllegalArgumentException if
[from] is greater than or equal to [until].\n * \n * @sample samples.random.Randoms.nextDoubleFromUntil\n
*\n public open fun nextDouble(from: Double, until: Double): Double {\n     checkRangeBounds(from, until)\n
    val size = until - from\n    val r = if (size.isInfinite() && from.isFinite() && until.isFinite()) {\n        val r1 =
nextDouble() * (until / 2 - from / 2)\n        from + r1 + r1\n    } else {\n        from + nextDouble() * size\n
    }\n    return if (r >= until) until.nextDown() else r\n }\n\n /**\n * Gets the next random [Float] value
uniformly distributed between 0 (inclusive) and 1 (exclusive).\n * \n * @sample
samples.random.Randoms.nextFloat\n * \n public open fun nextFloat(): Float = nextBits(24) / (1 shl
24).toFloat()\n\n /**\n * Fills a subrange of the specified byte [array] starting from [fromIndex] inclusive and
ending [toIndex] exclusive\n * with random bytes.\n * \n * @return [array] with the subrange filled with
random bytes.\n * \n * @sample samples.random.Randoms.nextBytes\n * \n public open fun
nextBytes(array: ByteArray, fromIndex: Int = 0, toIndex: Int = array.size): ByteArray {\n     require(fromIndex in
0..array.size && toIndex in 0..array.size) { "\"fromIndex ($fromIndex) or toIndex ($toIndex) are out of range:
0..${array.size}.\" }\n     require(fromIndex <= toIndex) { "\"fromIndex ($fromIndex) must be not greater than
toIndex ($toIndex).\" }\n     val steps = (toIndex - fromIndex) / 4\n     var position = fromIndex\n     repeat(steps) {\n         val v = nextInt()\n         array[position] = v.toByte()\n         array[position + 1] =
v.ushr(8).toByte()\n         array[position + 2] = v.ushr(16).toByte()\n         array[position + 3] =
v.ushr(24).toByte()\n         position += 4\n     }\n     val remainder = toIndex - position\n     val vr =
nextBits(remainder * 8)\n     for (i in 0 until remainder) {\n         array[position + i] = vr.ushr(i * 8).toByte()\n
    }\n     return array\n }\n\n /**\n * Fills the specified byte [array] with random bytes and returns it.\n * \n
* @return [array] filled with random bytes.\n * \n * @sample samples.random.Randoms.nextBytes\n * \n
public open fun nextBytes(array: ByteArray): ByteArray = nextBytes(array, 0, array.size)\n\n /**\n * Creates a
byte array of the specified [size], filled with random bytes.\n * \n * @sample
samples.random.Randoms.nextBytes\n * \n public open fun nextBytes(size: Int): ByteArray =
nextBytes(ByteArray(size))\n\n /**\n * The default random number generator.\n * \n * On JVM this
generator is thread-safe, its methods can be invoked from multiple threads.\n * \n * @sample
samples.random.Randoms.defaultRandom\n * \n companion object Default : Random(), Serializable {\n
private val defaultRandom: Random = defaultPlatformRandom()\n     private object Serialized : Serializable {\n
        private const val serialVersionUID = 0L\n         private fun readResolve(): Any = Random\n     }\n     private fun writeReplace(): Any = Serialized\n     override fun nextBits(bitCount: Int): Int =
defaultRandom.nextBits(bitCount)\n     override fun nextInt(): Int = defaultRandom.nextInt()\n     override fun
nextInt(until: Int): Int = defaultRandom.nextInt(until)\n     override fun nextInt(from: Int, until: Int): Int =
defaultRandom.nextInt(from, until)\n     override fun nextLong(): Long = defaultRandom.nextLong()\n     override fun
nextLong(until: Long): Long = defaultRandom.nextLong(until)\n     override fun nextLong(from:
Long, until: Long): Long = defaultRandom.nextLong(from, until)\n     override fun nextBoolean(): Boolean =
defaultRandom.nextBoolean()\n     override fun nextDouble(): Double = defaultRandom.nextDouble()\n     override fun
nextDouble(until: Double): Double = defaultRandom.nextDouble(until)\n     override fun
nextDouble(from: Double, until: Double): Double = defaultRandom.nextDouble(from, until)\n     override fun
nextFloat(): Float = defaultRandom.nextFloat()\n     override fun nextBytes(array: ByteArray): ByteArray =
defaultRandom.nextBytes(array)\n     override fun nextBytes(size: Int): ByteArray =
defaultRandom.nextBytes(size)\n     override fun nextBytes(array: ByteArray, fromIndex: Int, toIndex: Int):
ByteArray =\n     defaultRandom.nextBytes(array, fromIndex, toIndex)\n }\n}\n\n/**\n * Returns a repeatable
random number generator seeded with the given [seed] `Int` value.\n * \n * Two generators with the same seed

```

produce the same sequence of values within the same version of Kotlin runtime.

**Note:** Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return a sequence of values different from the current one for a given seed.

On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without proper synchronization.

```

@sample
samples.random.Randoms.seededRandom

@SinceKotlin("1.3")
public fun Random(seed: Int): Random =
    XorWowRandom(seed, seed.shr(31))

Returns a repeatable random number generator seeded with the
given [seed] `Long` value.

Two generators with the same seed produce the same sequence of values within
the same version of Kotlin runtime.

Note: Future versions of Kotlin may change the algorithm of this
seeded number generator so that it will return a sequence of values different from the current one for a given
seed.

On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without
proper synchronization.

@sample samples.random.Randoms.seededRandom

@SinceKotlin("1.3")
public fun Random(seed: Long): Random = XorWowRandom(seed.toInt(),
seed.shr(32).toInt())

Gets the next random `Int` from the random number generator in the specified
[range].

Generates an `Int` random value uniformly distributed in the specified [range]:
from `range.start` inclusive to `range.endInclusive` inclusive.

@throws IllegalArgumentException if [range] is empty.

@SinceKotlin("1.3")
public fun Random.nextInt(range: IntRange): Int = when {
    range.isEmpty() -> throw
    IllegalArgumentException("Cannot get random in empty range: $range")
    range.last < Int.MAX_VALUE ->
    nextInt(range.first, range.last + 1)
    range.first > Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1
    else -> nextInt()
}

Gets the next random `Long` from the random number generator in the specified
[range].

Generates a `Long` random value uniformly distributed in the specified [range]:
from `range.start` inclusive to `range.endInclusive` inclusive.

@throws IllegalArgumentException if [range] is
empty.

@SinceKotlin("1.3")
public fun Random.nextLong(range: LongRange): Long = when {
    range.isEmpty() -> throw IllegalArgumentException("Cannot get random in empty range: $range")
    range.last <
    Long.MAX_VALUE -> nextLong(range.first, range.last + 1)
    range.first > Long.MIN_VALUE ->
    nextLong(range.first - 1, range.last) + 1
    else -> nextLong()
}

internal expect fun
defaultPlatformRandom(): Random
internal expect fun doubleFromParts(hi26: Int, low27: Int): Double
internal
fun fastLog2(value: Int): Int = 31 - value.countLeadingZeroBits()

Takes upper [bitCount] bits (0..32) from
this number.

internal fun Int.takeUpperBits(bitCount: Int): Int =
    this.ushr(32 - bitCount) and (-
    bitCount).shr(31)

internal fun checkRangeBounds(from: Int, until: Int) = require(until > from) {
    boundsErrorMessage(from, until)
}

internal fun checkRangeBounds(from: Long, until: Long) = require(until >
from) { boundsErrorMessage(from, until)
}

internal fun checkRangeBounds(from: Double, until: Double) =
require(until > from) { boundsErrorMessage(from, until)
}

internal fun boundsErrorMessage(from: Any, until:
Any) = "Random range is empty: [$from, $until]."

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found in the license/LICENSE.txt file.

package kotlin.random

Gets the next random [UInt]
from the random number generator.

Generates a [UInt] random value uniformly distributed between
[UInt.MIN_VALUE] and [UInt.MAX_VALUE] (inclusive).

@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun
Random.nextUInt(): UInt = nextInt().toUInt()

Gets the next random [UInt] from the random number
generator less than the specified [until] bound.

Generates a [UInt] random value uniformly distributed
between `0` (inclusive) and the specified [until] bound (exclusive).

@throws IllegalArgumentException if
[until] is zero.

@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun
Random.nextUInt(until: UInt): UInt = nextUInt(0u, until)

Gets the next random [UInt] from the random
number generator in the specified range.

Generates a [UInt] random value uniformly distributed between the
specified [from] (inclusive) and [until] (exclusive) bounds.

@throws IllegalArgumentException if [from] is
greater than or equal to [until].

@SinceKotlin("1.5")
@WasExperimental(ExperimentalUnsignedTypes::class)
public fun
Random.nextUInt(from: UInt, until: UInt): UInt {
    checkUIntRangeBounds(from, until)
    val signedFrom =

```

```

from.toInt() xor Int.MIN_VALUE\n    val signedUntil = until.toInt() xor Int.MIN_VALUE\n\n    val signedResult =
nextInt(signedFrom, signedUntil) xor Int.MIN_VALUE\n    return signedResult.toUInt()\n}\n\n/**\n * Gets the next
random [UInt] from the random number generator in the specified [range].\n *\n * Generates a [UInt] random value
uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n
*\n * @throws IllegalArgumentException if [range] is empty.\n
*\n * @SinceKotlin("1.5")\n * @WasExperimental(ExperimentalUnsignedTypes::class)\n */\npublic fun
Random.nextIntUInt(range: UIntRange): UInt = when {\n    range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n    range.last < UInt.MAX_VALUE ->
nextIntUInt(range.first, range.last + 1u)\n    range.first > UInt.MIN_VALUE -> nextUInt(range.first - 1u, range.last) +
1u\n    else -> nextUInt()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator.\n *\n *
Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and
[ULong.MAX_VALUE] (inclusive).\n
*\n * @SinceKotlin("1.5")\n * @WasExperimental(ExperimentalUnsignedTypes::class)\n */\npublic fun
Random.nextULong(): ULong = nextLong().toULong()\n\n/**\n * Gets the next random [ULong] from the random
number generator less than the specified [until] bound.\n *\n * Generates a [ULong] random value uniformly
distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws
IllegalArgumentException if [until] is zero.\n
*\n * @SinceKotlin("1.5")\n * @WasExperimental(ExperimentalUnsignedTypes::class)\n */\npublic fun
Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n/**\n * Gets the next random [ULong] from
the random number generator in the specified range.\n *\n * Generates a [ULong] random value uniformly
distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n * @SinceKotlin("1.5")\n * @WasExperimental(ExperimentalUnsignedTypes::class)\n */\npublic fun
Random.nextULong(from: ULong, until: ULong): ULong {\n    checkULongRangeBounds(from, until)\n\n    val
signedFrom = from.toLong() xor Long.MIN_VALUE\n    val signedUntil = until.toLong() xor
Long.MIN_VALUE\n\n    val signedResult = nextLong(signedFrom, signedUntil) xor Long.MIN_VALUE\n
return signedResult.toULong()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator in
the specified [range].\n *\n * Generates a [ULong] random value uniformly distributed in the specified [range]:\n *
from `range.start` inclusive to `range.endInclusive` inclusive.\n *\n * @throws IllegalArgumentException if [range]
is empty.\n *\n * @SinceKotlin("1.5")\n * @WasExperimental(ExperimentalUnsignedTypes::class)\n */\npublic fun
Random.nextULong(range: ULongRange): ULong = when {\n    range.isEmpty() -> throw
IllegalArgumentException("Cannot get random in empty range: $range")\n    range.last < ULong.MAX_VALUE -
> nextULong(range.first, range.last + 1u)\n    range.first > ULong.MIN_VALUE -> nextULong(range.first - 1u,
range.last) + 1u\n    else -> nextULong()\n}\n\n/**\n * Fills the specified unsigned byte [array] with random bytes
and returns it.\n *\n * @return [array] filled with random bytes.\n
*\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n */\npublic fun Random.nextUBytes(array: UByteArray):
UByteArray {\n    nextBytes(array.asByteArray())\n    return array\n}\n\n/**\n * Creates an unsigned byte array of
the specified [size], filled with random bytes.\n *\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n */\npublic
fun Random.nextUBytes(size: Int): UByteArray = nextBytes(size).asUByteArray()\n\n/**\n * Fills a subrange of the
specified `UByte` [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive with random
UBytes.\n *\n * @return [array] with the subrange filled with random bytes.\n
*\n * @SinceKotlin("1.3")\n * @ExperimentalUnsignedTypes\n */\npublic fun Random.nextUBytes(array: UByteArray,
fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n    nextBytes(array.asByteArray(), fromIndex,
toIndex)\n    return array\n}\n\n\ninternal fun checkUIntRangeBounds(from: UInt, until: UInt) = require(until >
from) { boundsErrorMessage(from, until) }\ninternal fun checkULongRangeBounds(from: ULong, until: ULong) =
require(until > from) { boundsErrorMessage(from, until) }\n}\n\n/**\n * Copyright 2010-2018 JetBrains s.r.o. and
Kotlin Programming Language contributors.\n *\n * Use of this source code is governed by the Apache 2.0 license that
can be found in the license/LICENSE.txt file.\n *\n * @n\n */\npackage kotlin.random\n\n/**\n * Random number generator,

```

using Marsaglia's "xorwow" algorithm\n \* Cycles after 2^192 - 2^32 repetitions.\n \* For more details, see Marsaglia, George (July 2003). "Xorshift RNGs". Journal of Statistical Software. 8 (14).

doi:10.18637/jss.v008.i14\n \* Available at <https://www.jstatsoft.org/v08/i14/paper>\n \* \n\ninternal class XorWowRandom internal constructor(\n private var x: Int,\n private var y: Int,\n private var z: Int,\n private var w: Int,\n private var v: Int,\n private var addend: Int)\n : Random(), Serializable {\n\n internal constructor(seed1: Int, seed2: Int) :\n this(seed1, seed2, 0, 0, seed1.inv()), (seed1 shl 10) xor (seed2 ushr 4))\n\n init {\n require((x or y or z or w or v) != 0) {"Initial state must have at least one non-zero element."}\n\n // some trivial seeds can produce several values with zeroes in upper bits, so we discard first 64\n repeat(64) { nextInt() }\n\n override fun nextInt(): Int {\n // Equivalent to the xorwow algorithm\n // From Marsaglia, G. 2003. Xorshift RNGs. J. Statis. Soft. 8, 14, p. 5\n var t = x\n t = t xor (t ushr 2)\n x = y\n y = z\n z = w\n val v0 = v\n w = v0\n t = (t xor (t shl 1)) xor v0 xor (v0 shl 4)\n v = t\n addend += 362437\n return t + addend\n }\n\n override fun nextBits(bitCount: Int): Int =\n nextInt().takeUpperBits(bitCount)\n\n private companion object {\n private const val serialVersionUID: Long = 0L\n }\n\n"/\n \* Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \* \n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage kotlin.ranges\n\n/\*\*\n \* Represents a range of [Comparable] values.\n \*/\nprivate open class ComparableRange<T : Comparable<T>>(\n override val start: T,\n override val endInclusive: T)\n : ClosedRange<T> {\n\n override fun equals(other: Any?): Boolean {\n return other is ComparableRange<\*> && (isEmpty() && other.isEmpty())\n ||\n start == other.start && endInclusive == other.endInclusive\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 \* start.hashCode() + endInclusive.hashCode()\n }\n\n override fun toString(): String = "\$start..\$endInclusive"\n}\n\n/\*\*\n \* Creates a range from this [Comparable] value to the specified [that] value.\n \* This value needs to be smaller than or equal to [that] value, otherwise the returned range will be empty.\n \* @sample samples.ranges.Ranges.rangeFromComparable\n \*/\npublic operator fun <T : Comparable<T>> T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n/\*\*\n \* Represents a range of floating point numbers.\n \* Extends [ClosedRange] interface providing custom operation [lessThanOrEquals] for comparing values of range domain type.\n \* This interface is implemented by floating point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to\n \* achieve IEEE-754 comparison order instead of total order of floating point numbers.\n \*/\n@SinceKotlin("1.1")\npublic interface ClosedFloatingPointRange<T : Comparable<T>> : ClosedRange<T> {\n\n override fun contains(value: T): Boolean = lessThanOrEquals(start, value) && lessThanOrEquals(value, endInclusive)\n\n override fun isEmpty(): Boolean = !lessThanOrEquals(start, endInclusive)\n\n /\*\*\n \* Compares two values of range domain type and returns true if first is less than or equal to second.\n \*/\n fun lessThanOrEquals(a: T, b: T): Boolean\n}\n\n/\*\*\n \* A closed range of values of type `Double`.\n \* Numbers are compared with the ends of this range according to IEEE-754.\n \*/\nprivate class ClosedDoubleRange(\n start: Double,\n endInclusive: Double)\n : ClosedFloatingPointRange<Double> {\n\n private val \_start = start\n private val \_endInclusive = endInclusive\n\n override val start: Double get() = \_start\n override val endInclusive: Double get() = \_endInclusive\n\n override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b\n\n override fun contains(value: Double): Boolean = value >= \_start && value <= \_endInclusive\n\n override fun isEmpty(): Boolean = !(\_start <= \_endInclusive)\n\n override fun equals(other: Any?): Boolean {\n return other is ClosedDoubleRange && (isEmpty() && other.isEmpty())\n ||\n \_start == other.\_start && \_endInclusive == other.\_endInclusive\n }\n\n override fun hashCode(): Int {\n return if (isEmpty()) -1 else 31 \* \_start.hashCode() + \_endInclusive.hashCode()\n }\n\n override fun toString(): String = "\$\_start..\$\_endInclusive"\n}\n\n/\*\*\n \* Creates a range from this [Double] value to the specified [that] value.\n \* Numbers are compared with the ends of this range according to IEEE-754.\n \* @sample samples.ranges.Ranges.rangeFromDouble\n \*/\n@SinceKotlin("1.1")\npublic operator fun Double.rangeTo(that: Double): ClosedFloatingPointRange<Double> = ClosedDoubleRange(this, that)\n\n/\*\*\n \* A closed range of values of type `Float`.\n \* Numbers are compared with the ends of this range according to IEEE-754.\n \*/\nprivate class ClosedFloatRange(\n start: Float,\n endInclusive: Float)\n :



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ClosedFloatingPointRange<Float> {\n  private val _start = start\n  private val _endInclusive = endInclusive\n  override val start: Float get() = _start\n  override val endInclusive: Float get() = _endInclusive\n\n  override fun lessThanOrEquals(a: Float, b: Float): Boolean = a <= b\n\n  override fun contains(value: Float): Boolean = value >= _start && value <= _endInclusive\n  override fun isEmpty(): Boolean = !(_start <= _endInclusive)\n\n  override fun equals(other: Any?): Boolean {\n    return other is ClosedFloatRange && (isEmpty() && other.isEmpty() ||\n      _start == other._start && _endInclusive == other._endInclusive)\n  }\n\n  override fun hashCode(): Int {\n    return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()\n  }\n\n  override fun toString(): String = \"$_start..$_endInclusive\"\n\n  /**\n   * Creates a range from this [Float] value to the specified [that] value.\n   * Numbers are compared with the ends of this range according to IEEE-754.\n   * @sample samples.ranges.Ranges.rangeFromFloat\n   */\n  @SinceKotlin("1.1")\n  public operator fun Float.rangeTo(that: Float): ClosedFloatingPointRange<Float> = ClosedFloatRange(this, that)\n\n  /**\n   * Returns `true` if this iterable range contains the specified [element].\n   * Always returns `false` if the [element] is `null`.\n   */\n  @SinceKotlin("1.3")\n  @kotlin.internal.InlineOnly\n  public inline operator fun <T, R> R.contains(element: T?): Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T> =\n    element != null && contains(element)\n\n  @kotlin.internal fun checkStepIsPositive(isPositive: Boolean, step: Number) {\n    if (!isPositive) throw IllegalArgumentException("Step must be positive, was: $step.")\n  }\n\n  /*\n   * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n   * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n   */\n  @file:kotlin.jvm.JvmName("KClasses")\n  @file:Suppress("UNCHECKED_CAST")\n  \n  package kotlin.reflect\n  \n  @kotlin.internal.LowPriorityInOverloadResolution\n  \n  /**\n   * Casts the given [value] to the class represented by this [KClass] object.\n   * Throws an exception if the value is `null` or if it is not an instance of this class.\n   * This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.\n   * @see [KClass.isInstance]\n   * @see [KClass.safeCast]\n   */\n  @SinceKotlin("1.4")\n  @WasExperimental(ExperimentalStdlibApi::class)\n  @LowPriorityInOverloadResolution\n  fun <T : Any> KClass<T>.cast(value: Any?): T {\n    if (!isInstance(value)) throw ClassCastException("Value cannot be cast to $qualifiedOrSimpleName")\n    return value as T\n  }\n\n  // TODO: replace with qualifiedName when it is fully supported in K/JS\n  @kotlin.internal expect val KClass<*>.qualifiedOrSimpleName: String?\n\n  /**\n   * Casts the given [value] to the class represented by this [KClass] object.\n   * Returns `null` if the value is `null` or if it is not an instance of this class.\n   * This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.\n   * @see [KClass.isInstance]\n   * @see [KClass.cast]\n   */\n  @SinceKotlin("1.4")\n  @WasExperimental(ExperimentalStdlibApi::class)\n  @LowPriorityInOverloadResolution\n  fun <T : Any> KClass<T>.safeCast(value: Any?): T? {\n    return if (isInstance(value)) value as T else null\n  }\n\n  /*\n   * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n   * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n   */\n  \n  package kotlin.reflect\n  \n  @kotlin.jvm.JvmField\n  @kotlin.jvm.JvmStatic\n  \n  /**\n   * Represents a type projection. Type projection is usually the argument to another type in a type usage.\n   * For example, in the type `Array<out Number>`, `out Number` is the covariant projection of the type represented by the class `Number`.\n   * Type projection is either the star projection, or an entity consisting of a specific type plus optional variance.\n   * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#type-projections) for more information.\n   */\n  @SinceKotlin("1.1")\n  public data class KTypeProjection\n  constructor(\n    /**\n     * The use-site variance specified in the projection, or `null` if this is a star projection.\n     */\n    public val variance: KVariance?,\n    /**\n     * The type specified in the projection, or `null` if this is a star projection.\n     */\n    public val type: KType?) {\n    init {\n      require((variance == null) == (type == null))\n    }\n\n    if (variance == null)\n      "Star projection must have no type specified." else\n      "The projection variance $variance requires type to be specified."
  }\n\n  override fun toString(): String = when (variance) {\n    null -> "*" KVariance.INVARIANT -> type.toString()\n    KVariance.IN -> "in $type" KVariance.OUT -> "out $type"\n  }\n\n  public companion object {\n    // provided for compiler access\n    @JvmField\n    @PublishedApi\n    internal val star: KTypeProjection =

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KTypeProjection(null, null)\n\n    /**\n     * Star projection, denoted by the `*` character.\n     * For example,
in the type `KClass<*>`, `*` is the star projection.\n     * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections)\n     * for more
information.\n     */\n    public val STAR: KTypeProjection get() = star\n\n    /**\n     * Creates an
invariant projection of a given type. Invariant projection is just the type itself,\n     * without any use-site variance
modifiers applied to it.\n     * For example, in the type `Set<String>`, `String` is an invariant projection of the type
represented by the class `String`.\n     */\n    @JvmStatic\n    public fun invariant(type: KType):
KTypeProjection =\n        KTypeProjection(KVariance.INVARIANT, type)\n\n    /**\n     * Creates a
contravariant projection of a given type, denoted by the `in` modifier applied to a type.\n     * For example, in the
type `MutableList<in Number>`, `in Number` is a contravariant projection of the type of class `Number`.\n     */\n    @JvmStatic\n    public fun contravariant(type: KType): KTypeProjection =\n        KTypeProjection(KVariance.IN, type)\n\n    /**\n     * Creates a covariant projection of a given type, denoted
by the `out` modifier applied to a type.\n     * For example, in the type `Array<out Number>`, `out Number` is a
covariant projection of the type of class `Number`.\n     */\n    @JvmStatic\n    public fun covariant(type:
KType): KTypeProjection =\n        KTypeProjection(KVariance.OUT, type)\n    }\n\n    /**\n     * Copyright 2010-
2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n     * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n     */\n\n    package kotlin.reflect\n\n    /**\n     * Represents variance applied to a type parameter on the declaration site (*declaration-site variance*),\n     * or to a type
in a projection (*use-site variance*).\n     */\n    * See the [Kotlin language
documentation](https://kotlinlang.org/docs/reference/generics.html#variance)\n     * for more information.\n     */\n    @see [KTypeParameter.variance]\n    @see [KTypeProjection]\n    @SinceKotlin("1.1")\n    enum class KVariance
{\n        /**\n         * The affected type parameter or type is *invariant*, which means it has no variance applied to it.\n         */\n        INVARIANT,\n\n        /**\n         * The affected type parameter or type is *contravariant*. Denoted by the `in`
modifier in the source code.\n         */\n        IN,\n\n        /**\n         * The affected type parameter or type is *covariant*.
Denoted by the `out` modifier in the source code.\n         */\n        OUT,\n    },\n\n    /**\n     * Copyright 2010-2019 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n     * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n     */\n\n    package kotlin.reflect\n\n    /**\n     * Returns a runtime
representation of the given reified type [T] as an instance of [KType].\n     */\n    * Note that on JVM, the created type has
no annotations ([KType.annotations] returns an empty list)\n     * even if the type in the source code is annotated.
Support for type annotations might be added in a future version.\n     */\n    @SinceKotlin("1.6")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    public inline fun <reified T>
typeOf(): KType =\n        throw UnsupportedOperationException("This function is implemented as an intrinsic on all
supported platforms.")\n    },\n\n    /**\n     * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n     * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n     */\n\n    @file:kotlin.jvm.JvmMultifileClass\n    @file:kotlin.jvm.JvmName("StringsKt")\n    package
kotlin.text\n\n    /**\n     * An object to which char sequences and values can be appended.\n     */\n    next interface
Appendable {\n        /**\n         * Appends the specified character [value] to this Appendable and returns this instance.\n         */\n        * @param value the character to append.\n         */\n        fun append(value: Char): Appendable\n\n        /**\n         * Appends the specified character sequence [value] to this Appendable and returns this instance.\n         */\n        * @param value the character sequence to append. If [value] is `null`, then the four characters `\\`null` are appended to this
Appendable.\n         */\n        fun append(value: CharSequence?): Appendable\n\n        /**\n         * Appends a subsequence of
the specified character sequence [value] to this Appendable and returns this instance.\n         */\n        * @param value the
character sequence from which a subsequence is appended. If [value] is `null`,\n         * then characters are appended
as if [value] contained the four characters `\\`null`.\n         * @param startIndex the beginning (inclusive) of the
subsequence to append.\n         * @param endIndex the end (exclusive) of the subsequence to append.\n         */\n        * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of the [value] character sequence indices or when `startIndex > endIndex`.\n         */\n        fun append(value:

```

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CharSequence?, startIndex: Int, endIndex: Int): Appendable\n}\n\n/**\n * Appends a subsequence of the specified
character sequence [value] to this Appendable and returns this instance.\n *\n * @param value the character
sequence from which a subsequence is appended.\n *\n * @param startIndex the beginning (inclusive) of the
subsequence to append.\n *\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the
[value] character sequence indices or when `startIndex > endIndex`.\n
*\n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T : Appendable>
T.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): T {\n
@Suppress("UNCHECKED_CAST")\n    return append(value, startIndex, endIndex) as T\n}\n\n/**\n * Appends
all arguments to the given [Appendable].\n *\n\npublic fun <T : Appendable> T.append(vararg value:
CharSequence?): T {\n    for (item in value)\n        append(item)\n    return this\n}\n\n/**\n * Appends a line feed
character (`\n`) to this Appendable. *\n\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
Appendable.appendLine(): Appendable = append("\n")\n\n/**\n * Appends value to the given Appendable and a line
feed character (`\n`) after it. *\n\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun
Appendable.appendLine(value: CharSequence?): Appendable = append(value).appendLine()\n\n/**\n * Appends value
to the given Appendable and a line feed character (`\n`) after it.
*\n\n@SinceKotlin("1.4")\n@kotlin.internal.InlineOnly\npublic inline fun Appendable.appendLine(value: Char):
Appendable = append(value).appendLine()\n\n\ninternal fun <T> Appendable.appendElement(element: T,
transform: ((T) -> CharSequence)?) {\n    when {\n        transform != null -> append(transform(element))\n
        element is CharSequence? -> append(element)\n        element is Char -> append(element)\n        else ->
append(element.toString())\n    }\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*\n\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/**\n * Trims leading whitespace characters followed by [marginPrefix] from every line of a source
string and removes\n * the first and the last lines if they are blank (notice difference blank vs empty).\n *\n * Doesn't
affect a line if it doesn't contain [marginPrefix] except the first and the last blank lines.\n *\n * Doesn't preserve the
original line endings.\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is
`|` (pipe character).\n *\n * @sample samples.text.Strings.trimMargin\n * @see trimIndent\n * @see
kotlin.text.isWhitespace\n *\n\npublic fun String.trimMargin(marginPrefix: String = "|"): String =\n
replaceIndentByMargin("|", marginPrefix)\n\n\n/**\n * Detects indent by [marginPrefix] as it does [trimMargin] and
replace it with [newIndent].\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter.
Default is `|` (pipe character).\n *\n\npublic fun String.replaceIndentByMargin(newIndent: String = "|",
marginPrefix: String = "|"): String {\n    require(marginPrefix.isNotBlank()) { "marginPrefix must be non-blank
string." }\n    val lines = lines()\n    return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line ->\n        val firstNonWhitespaceIndex = line.indexOfFirst { !it.isWhitespace()
}\n\n        when {\n            firstNonWhitespaceIndex == -1 -> null\n            line.startsWith(marginPrefix,
firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex + marginPrefix.length)\n            else -> null\n
        }\n    })\n}\n\n\n/**\n * Detects a common minimal indent of all the input lines, removes it from every line and
also removes the first and the last\n * lines if they are blank (notice difference blank vs empty).\n *\n * Note that
blank lines do not affect the detected indent level.\n *\n * In case if there are non-blank lines with no leading
whitespace characters (no indent at all) then the\n * common indent is 0, and therefore this function doesn't change
the indentation.\n *\n * Doesn't preserve the original line endings.\n *\n * @sample
samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n *\n\npublic fun
String.trimIndent(): String = replaceIndent("|")\n\n\n/**\n * Detects a common minimal indent like it does
[trimIndent] and replaces it with the specified [newIndent].\n *\n\npublic fun String.replaceIndent(newIndent: String
= "|"): String {\n    val lines = lines()\n    val minCommonIndent = lines\n        .filter(String::isNotBlank)\n
        .map(String::indentWidth)\n        .minOrNull() ?: 0\n    return lines.reindent(length + newIndent.length *

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lines.size, getIndentFunction(newIndent), { line -> line.drop(minCommonIndent) })\n\n/**\n * Prepends [indent]
to every line of the original string.\n *\n * Doesn't preserve the original line endings.\n */\npublic fun
String.prependIndent(indent: String = "\t"): String =\n    lineSequence()\n        .map { line\n            when { line
it.isBlank() -> {\n                when { line
                    it.length < indent.length -> indent\n                        else -> it\n                }\n            }\n            else -> indent + it\n        }\n    }.joinToString("\n")\n\nprivate fun
String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1) length else it }\n\nprivate fun
getIndentFunction(indent: String) = when { line\n    indent.isEmpty() -> { line: String -> line }\n    else -> { line: String -
> indent + line }\n}\n\nprivate inline fun List<String>.reindent(\n    resultSizeEstimate: Int,\n    indentAddFunction:
(String) -> String,\n    indentCutFunction: (String) -> String?\n): String {\n    val lastIndex = lastIndex\n    return
mapIndexedNotNull { index, value ->\n        if ((index == 0 || index == lastIndex) && value.isBlank())\n            null\n        else\n            indentCutFunction(value)?.let(indentAddFunction)?: value\n    }\n}.joinTo(
StringBuilder(resultSizeEstimate), "\n")\n    .toString()\n}\n\n"/**\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Defines names for
Unicode symbols used in proper Typography.\n */\npublic object Typography {\n    /** The character &#x22;
\u2013 quotation mark */\n    public const val quote: Char = "\u0022"\n    /** The character &#x24; \u2013 dollar
sign */\n    public const val dollar: Char = "\u0024"\n    /** The character &#x26; \u2013 ampersand */\n    public
const val amp: Char = "\u0026"\n    /** The character &#x3C; \u2013 less-than sign */\n    public const val less:
Char = "\u003C"\n    /** The character &#x3E; \u2013 greater-than sign */\n    public const val greater: Char =
"\u003E"\n    /** The non-breaking space character */\n    public const val nbsp: Char = "\u00A0"\n    /** The
character &#xD7; */\n    public const val times: Char = "\u00D7"\n    /** The character &#xA2; */\n    public
const val cent: Char = "\u00A2"\n    /** The character &#xA3; */\n    public const val pound: Char = "\u00A3"\n    /** The
character &#xA7; */\n    public const val section: Char = "\u00A7"\n    /** The character &#xA9; */\n    public
const val copyright: Char = "\u00A9"\n    /** The character &#xAB; */\n    @SinceKotlin("1.6")\n    public const val
leftGuillemet: Char = "\u00AB"\n    /** The character &#xBB; */\n    @SinceKotlin("1.6")\n    public const val
rightGuillemet: Char = "\u00BB"\n    /** The character &#xAE; */\n    public const val registered: Char =
"\u00AE"\n    /** The character &#xB0; */\n    public const val degree: Char = "\u00B0"\n    /** The character
&#xB1; */\n    public const val plusMinus: Char = "\u00B1"\n    /** The character &#xB6; */\n    public const val
paragraph: Char = "\u00B6"\n    /** The character &#xB7; */\n    public const val middleDot: Char = "\u00B7"\n    /**
The character &#xBD; */\n    public const val half: Char = "\u00BD"\n    /** The character &#x2013; */\n    public
const val ndash: Char = "\u2013"\n    /** The character &#x2014; */\n    public const val mdash: Char =
"\u2014"\n    /** The character &#x2018; */\n    public const val leftSingleQuote: Char = "\u2018"\n    /** The
character &#x2019; */\n    public const val rightSingleQuote: Char = "\u2019"\n    /** The character &#x201A; */\n
public const val lowSingleQuote: Char = "\u201A"\n    /** The character &#x201C; */\n    public const val
leftDoubleQuote: Char = "\u201C"\n    /** The character &#x201D; */\n    public const val rightDoubleQuote: Char
= "\u201D"\n    /** The character &#x201E; */\n    public const val lowDoubleQuote: Char = "\u201E"\n    /** The
character &#x2020; */\n    public const val dagger: Char = "\u2020"\n    /** The character &#x2021; */\n    public
const val doubleDagger: Char = "\u2021"\n    /** The character &#x2022; */\n    public const val bullet: Char =
"\u2022"\n    /** The character &#x2026; */\n    public const val ellipsis: Char = "\u2026"\n    /** The character
&#x2032; */\n    public const val prime: Char = "\u2032"\n    /** The character &#x2033; */\n    public const val
doublePrime: Char = "\u2033"\n    /** The character &#x20AC; */\n    public const val euro: Char = "\u20AC"\n    /**
The character &#x2122; */\n    public const val tm: Char = "\u2122"\n    /** The character &#x2248; */\n    public
const val almostEqual: Char = "\u2248"\n    /** The character &#x2260; */\n    public const val notEqual:
Char = "\u2260"\n    /** The character &#x2264; */\n    public const val lessOrEqual: Char = "\u2264"\n    /** The
character &#x2265; */\n    public const val greaterOrEqual: Char = "\u2265"\n\n    /** The character &#xAB; */\n
    @Deprecated("This constant has a typo in the name. Use leftGuillemet instead.")\n    ReplaceWith("Typography.leftGuillemet")\n    @DeprecatedSinceKotlin("1.6")\n    public const val
leftGuillemete: Char = "\u00AB"\n\n    /** The character &#xBB; */\n    @Deprecated("This constant has a typo in

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the name. Use rightGuillemet instead.", ReplaceWith("\\Typograpy.rightGuillemet"))\n
@DeprecatedSinceKotlin("1.6")\n public const val rightGuillemete: Char = "\\u00BB"\n","/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n *
Represents a collection of captured groups in a single match of a regular expression.\n *\n * This collection has size
of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n *\n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n *\n * An element of the
collection at the particular index can be `null`,\n *\n * if the corresponding group in the regular expression is optional
and\n *\n * there was no match captured by that group.\n */\n\npublic interface MatchGroupCollection :
Collection<MatchGroup?> {\n\n /** Returns a group with the specified [index].\n *\n * @return An instance
of [MatchGroup] if the group with the specified [index] was matched or `null` otherwise.\n *\n * Groups are
indexed from 1 to the count of groups in the regular expression. A group with the index 0\n *\n * corresponds to the
entire match.\n */\n\n public operator fun get(index: Int): MatchGroup?\n}\n\n/**\n * Extends
[MatchGroupCollection] by introducing a way to get matched groups by name, when regex supports it.\n
*/\n\n@SinceKotlin("1.1")\n\npublic interface MatchNamedGroupCollection : MatchGroupCollection {\n\n /**\n *\n *
Returns a named group with the specified [name].\n *\n * @return An instance of [MatchGroup] if the group with the
specified [name] was matched or `null` otherwise.\n *\n * @throws IllegalArgumentException if there is no group
with the specified [name] defined in the regex pattern.\n *\n * @throws UnsupportedOperationException if getting
named groups isn't supported on the current platform.\n */\n\n public operator fun get(name: String):
MatchGroup?\n}\n\n/**\n * Represents the results from a single regular expression match.\n */\n\npublic interface
MatchResult {\n\n /** The range of indices in the original string where match was captured. */\n\n public val range:
IntRange\n\n /** The substring from the input string captured by this match. */\n\n public val value: String\n\n /**\n
* A collection of groups matched by the regular expression.\n *\n * This collection has size of `groupCount +
1` where `groupCount` is the count of groups in the regular expression.\n *\n * Groups are indexed from 1 to
`groupCount` and group with the index 0 corresponds to the entire match.\n */\n\n public val groups:
MatchGroupCollection\n\n /**\n *\n * A list of matched indexed group values.\n *\n * This list has size of
`groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n *\n * Groups are indexed
from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n *\n * If the group in the
regular expression is optional and there were no match captured by that group,\n *\n * corresponding item in
[groupValues] is an empty string.\n *\n * @sample
samples.text.Regexps.matchDestructuringToGroupValues\n */\n\n public val groupValues: List<String>\n}\n\n/**\n
* An instance of [MatchResult.Destructured] wrapper providing components for destructuring assignment
of group values.\n *\n * component1 corresponds to the value of the first group, component2 \u2014 of the
second, and so on.\n *\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n\n public val destructured: Destructured\n\n get() = Destructured(this)\n\n /** Returns a new [MatchResult] with the
results for the next match, starting at the position\n *\n * at which the last match ended (at the character after the last
matched character).\n */\n\n public fun next(): MatchResult?\n}\n\n /**\n *\n * Provides components for
destructuring assignment of group values.\n *\n * [component1] corresponds to the value of the first group,
[component2] \u2014 of the second, and so on.\n *\n * If the group in the regular expression is optional and
there were no match captured by that group,\n *\n * corresponding component value is an empty string.\n *\n *
@sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n\n public class Destructured internal
constructor(public val match: MatchResult) {\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun
component1(): String = match.groupValues[1]\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun
component2(): String = match.groupValues[2]\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun
component3(): String = match.groupValues[3]\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun
component4(): String = match.groupValues[4]\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun
component5(): String = match.groupValues[5]\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun
component6(): String = match.groupValues[6]\n\n @kotlin.internal.InlineOnly\n\n public operator inline fun

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component7(): String = match.groupValues[7]\n    @kotlin.internal.InlineOnly\n    public operator inline fun
component8(): String = match.groupValues[8]\n    @kotlin.internal.InlineOnly\n    public operator inline fun
component9(): String = match.groupValues[9]\n    @kotlin.internal.InlineOnly\n    public operator inline fun
component10(): String = match.groupValues[10]\n\n    /**\n     * Returns destructured group values as a list of
strings.\n     * First value in the returned list corresponds to the value of the first group, and so on.\n     *\n     * @sample samples.text.Regexps.matchDestructuringToGroupValues\n     */\n    public fun toList():
List<String> = match.groupValues.subList(1, match.groupValues.size)\n    }\n}", /*\n * Copyright 2010-2021
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass()\n@file:kotlin.jvm.JvmName("DurationUnitKt")\n\npackage
kotlin.time\n\n/**\n * The list of possible time measurement units, in which a duration can be expressed.\n *\n * The smallest time unit is [NANOSECONDS] and the largest is [DAYS], which corresponds to exactly 24
[HOURS].\n *\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalTime::class)\npublic expect enum class
DurationUnit {\n    /**\n     * Time unit representing one nanosecond, which is 1/1000 of a microsecond.\n     *\n    NANOSECONDS,\n    /**\n     * Time unit representing one microsecond, which is 1/1000 of a millisecond.\n     *\n    MICROSECONDS,\n    /**\n     * Time unit representing one millisecond, which is 1/1000 of a second.\n     *\n    MILLISECONDS,\n    /**\n     * Time unit representing one second.\n     *\n    SECONDS,\n    /**\n     *
Time unit representing one minute.\n     *\n    MINUTES,\n    /**\n     * Time unit representing one hour.\n     *\n    HOURS,\n    /**\n     * Time unit representing one day, which is always equal to 24 hours.\n     *\n    DAYS;\n}\n\n/** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified
[targetUnit]. *\n@SinceKotlin("1.3")\ninternal expect fun convertDurationUnit(value: Double, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Double\n\n// overflown result is
unspecified\n@SinceKotlin("1.5")\ninternal expect fun convertDurationUnitOverflow(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit): Long\n\n// overflown result is coerced in the Long range
boundaries\n@SinceKotlin("1.5")\ninternal expect fun convertDurationUnit(value: Long, sourceUnit:
DurationUnit, targetUnit: DurationUnit):
Long\n\n@SinceKotlin("1.3")\n@Suppress("REDUNDANT_ELSE_IN_WHEN")\ninternal fun
DurationUnit.shortName(): String = when (this) {\n    DurationUnit.NANOSECONDS -> "ns"\n
DurationUnit.MICROSECONDS -> "us"\n    DurationUnit.MILLISECONDS -> "ms"\n
DurationUnit.SECONDS -> "s"\n    DurationUnit.MINUTES -> "m"\n    DurationUnit.HOURS -> "h"\n
DurationUnit.DAYS -> "d"\n    else -> error("Unknown unit: $this")\n}\n\n@SinceKotlin("1.5")\ninternal fun
durationUnitByShortName(shortName: String): DurationUnit = when (shortName) {\n    "ns" ->
DurationUnit.NANOSECONDS\n    "us" -> DurationUnit.MICROSECONDS\n    "ms" ->
DurationUnit.MILLISECONDS\n    "s" -> DurationUnit.SECONDS\n    "m" -> DurationUnit.MINUTES\n
"h" -> DurationUnit.HOURS\n    "d" -> DurationUnit.DAYS\n    else -> throw
IllegalArgumentException("Unknown duration unit short name:
$shortName")\n}\n\n@SinceKotlin("1.5")\ninternal fun durationUnitByIsoChar(isoChar: Char,
isTimeComponent: Boolean): DurationUnit =\n    when {\n        !isTimeComponent -> {\n            when (isoChar)
{\n                'D' -> DurationUnit.DAYS\n                else -> throw IllegalArgumentException("Invalid or
unsupported duration ISO non-time unit: $isoChar")\n            }\n        }\n        else -> {\n            when (isoChar) {\n
                'H' -> DurationUnit.HOURS\n                'M' -> DurationUnit.MINUTES\n                'S' ->
DurationUnit.SECONDS\n                else -> throw IllegalArgumentException("Invalid duration ISO time unit:
$isoChar")\n            }\n        }\n    }, /*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin.time\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * This annotation marks the experimental preview of the standard library API for measuring time and working with
durations.\n *\n * > Note that this API is in a preview state and has a very high chance of being changed in the
future.\n *\n * Do not use it if you develop a library since your library will become binary incompatible\n * with the

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future versions of the standard library.\n * Any usage of a declaration annotated with `@ExperimentalTime`
must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g.
`@OptIn(ExperimentalTime::class)`,\n * or by using the compiler argument `-opt-
in=kotlin.time.ExperimentalTime`. \n * \n * @RequiresOptIn(level =
RequiresOptIn.Level.ERROR)\n * @MustBeDocumented\n * @Retention(AnnotationRetention.BINARY)\n * @Target(\n
CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n
VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n
PROPERTY_SETTER,\n TYPEALIAS)\n * @SinceKotlin("1.3")\n * public annotation class
ExperimentalTime\n * \n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n * \n * package kotlin.time\n * \n * A source of time for measuring time intervals.\n
*\n * The only operation provided by the time source is [markNow]. It returns a [TimeMark], which can be used to
query the elapsed time later.\n * \n * @see [measureTime]\n * @see [measureTimedValue]\n
*\n * @SinceKotlin("1.3")\n * @ExperimentalTime\n * public interface TimeSource {\n * \n * Marks a point in
time on this time source.\n * \n * The returned [TimeMark] instance encapsulates the captured time point and
allows querying\n * the duration of time interval [elapsed][TimeMark.elapsedNow] from that point.\n * \n
*\n * public fun markNow(): TimeMark\n * \n * The most precise time source available in the platform.\n * \n
*\n * This time source returns its readings from a source of monotonic time when it is available in a target platform,\n
*\n * and resorts to a non-monotonic time source otherwise.\n * \n * public object Monotonic : TimeSource by
MonotonicTimeSource {\n * \n override fun toString(): String = MonotonicTimeSource.toString()\n * \n }\n * \n
*\n * public companion object {\n * \n }\n * \n * Represents a time point notched on a particular [TimeSource].
Remains bound to the time source it was taken from\n * and allows querying for the duration of time elapsed from
that point (see the function [elapsedNow]).\n * \n * @SinceKotlin("1.3")\n * @ExperimentalTime\n * public abstract class
TimeMark {\n * \n * Returns the amount of time passed from this mark measured with the time source from
which this mark was taken.\n * \n * Note that the value returned by this function can change on subsequent
invocations.\n * \n * public abstract fun elapsedNow(): Duration\n * \n * Returns a time mark on the same
time source that is ahead of this time mark by the specified [duration].\n * \n * The returned time mark is more
_late_ when the [duration] is positive, and more _early_ when the [duration] is negative.\n * \n * public open
operator fun plus(duration: Duration): TimeMark = AdjustedTimeMark(this, duration)\n * \n * Returns a
time mark on the same time source that is behind this time mark by the specified [duration].\n * \n * The
returned time mark is more _early_ when the [duration] is positive, and more _late_ when the [duration] is
negative.\n * \n * public open operator fun minus(duration: Duration): TimeMark = plus(-duration)\n * \n
*\n * Returns true if this time mark has passed according to the time source from which this mark was taken.\n * \n
*\n * Note that the value returned by this function can change on subsequent invocations.\n * \n * If the time source is
monotonic, it can change only from `false` to `true`, namely, when the time mark becomes behind the current point
of the time source.\n * \n * public fun hasPassedNow(): Boolean = !elapsedNow().isNegative()\n * \n *
Returns false if this time mark has not passed according to the time source from which this mark was taken.\n * \n
*\n * Note that the value returned by this function can change on subsequent invocations.\n * \n * If the time source is
monotonic, it can change only from `true` to `false`, namely, when the time mark becomes behind the current point
of the time source.\n * \n * public fun hasNotPassedNow(): Boolean =
elapsedNow().isNegative()\n * \n * \n * @ExperimentalTime\n * @SinceKotlin("1.3")\n * @kotlin.internal.InlineOnly\n * @
Deprecated(\n * \ "Subtracting one TimeMark from another is not a well defined operation because these time marks
could have been obtained from the different time sources.\n * \",\n * level =
DeprecationLevel.ERROR)\n * \n * @Suppress("UNUSED_PARAMETER")\n * public inline operator fun
TimeMark.minus(other: TimeMark): Duration = throw Error("Operation is
disallowed.")\n * \n * @ExperimentalTime\n * @SinceKotlin("1.3")\n * @kotlin.internal.InlineOnly\n * @
Deprecated(\n * \ "Comparing one TimeMark to another is not a well defined operation because these time marks could have been
obtained from the different time sources.\n * \",\n * level =

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DeprecationLevel.ERROR\n\n@Suppress("UNUSED_PARAMETER")\npublic inline operator fun
TimeMark.compareTo(other: TimeMark): Int = throw Error("Operation is
disallowed.")\n\n\n@ExperimentalTime\nprivate class AdjustedTimeMark(val mark: TimeMark, val adjustment:
Duration) : TimeMark() {\n    override fun elapsedNow(): Duration = mark.elapsedNow() - adjustment\n\n    override fun plus(duration: Duration): TimeMark = AdjustedTimeMark(mark, adjustment + duration)\n}\n"/*\n *
Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is
governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.time\n\n@SinceKotlin("1.3")\n@ExperimentalTime\ninternal expect object MonotonicTimeSource :
TimeSource\n"/*\n * An abstract class used to implement time sources that return their readings as [Long] values
in the specified [unit].\n */\n * @property unit The unit in which this time source's readings are expressed.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic abstract class AbstractLongTimeSource(protected val
unit: DurationUnit) : TimeSource {\n    /**\n     * This protected method should be overridden to return the current
reading of the time source expressed as a [Long] number\n     * in the unit specified by the [unit] property.\n     */\n    protected abstract fun read(): Long\n\n    private class LongTimeMark(private val startedAt: Long, private val
timeSource: AbstractLongTimeSource, private val offset: Duration) : TimeMark() {\n        override fun
elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n        override fun
plus(duration: Duration): TimeMark = LongTimeMark(startedAt, timeSource, offset + duration)\n    }\n\n    override
fun markNow(): TimeMark = LongTimeMark(read(), this, Duration.ZERO)\n}\n"/*\n * An abstract class used to
implement time sources that return their readings as [Double] values in the specified [unit].\n */\n * @property unit
The unit in which this time source's readings are expressed.\n
*/\n\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic abstract class AbstractDoubleTimeSource(protected val
unit: DurationUnit) : TimeSource {\n    /**\n     * This protected method should be overridden to return the current
reading of the time source expressed as a [Double] number\n     * in the unit specified by the [unit] property.\n     */\n    protected abstract fun read(): Double\n\n    private class DoubleTimeMark(private val startedAt: Double,
private val timeSource: AbstractDoubleTimeSource, private val offset: Duration) : TimeMark() {\n        override fun
elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n        override fun
plus(duration: Duration): TimeMark = DoubleTimeMark(startedAt, timeSource, offset + duration)\n    }\n\n    override
fun markNow(): TimeMark = DoubleTimeMark(read(), this, Duration.ZERO)\n}\n"/*\n * A time source
that has programmatically updatable readings. It is useful as a predictable source of time in tests.\n */\n * The current
reading value can be advanced by the specified duration amount with the operator [plusAssign]:\n */\n * val
timeSource = TestTimeSource()\n * timeSource += 10.seconds\n */\n * Implementation note: the current
reading value is stored as a [Long] number of nanoseconds,\n */\n * thus it's capable to represent a time range of
approximately 1292 years.\n */\n * Should the reading value overflow as the result of [plusAssign] operation, an
[IllegalStateException] is thrown.\n\n\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic class TestTimeSource
: AbstractLongTimeSource(unit = DurationUnit.NANOSECONDS) {\n    private var reading: Long = 0L\n\n    override fun
read(): Long = reading\n\n    /**\n     * Advances the current reading value of this time source by the
specified [duration].\n     */\n    * [duration] value is rounded down towards zero when converting it to a [Long]
number of nanoseconds.\n     * For example, if the duration being added is `0.6.nanoseconds`, the reading doesn't
advance because\n     * the duration value is rounded to zero nanoseconds.\n     */\n    * @throws
IllegalStateException when the reading value overflows as the result of this operation.\n     */\n    public operator fun
plusAssign(duration: Duration) {\n        val longDelta = duration.toLong(unit)\n        reading = if (longDelta !=
Long.MIN_VALUE && longDelta != Long.MAX_VALUE) {\n            // when delta fits in long, add it as long\n
            val newReading = reading + longDelta\n            if (reading xor longDelta >= 0 && reading xor newReading < 0)\n                overflow(duration)\n            newReading\n        } else {\n            val delta = duration.toDouble(unit)\n            // when
delta is greater than long, add it as double\n            val newReading = reading + delta\n            if (newReading >
Long.MAX_VALUE || newReading < Long.MIN_VALUE)\n                overflow(duration)\n            newReading.toLong()\n        }\n    }\n\n    private fun overflow(duration: Duration) {\n        throw IllegalStateException("TestTimeSource will
overflow if its reading ${reading}ns is advanced by $duration.")\n    }\n}\n"/*\n * Copyright 2010-2020 JetBrains

```



s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\npackage kotlin.time\n\nimport kotlin.contracts.\*\n\n/\*\*\n \* Executes the given function [block] and returns the duration of elapsed time interval.\n \*\n \* The elapsed time is measured with [TimeSource.Monotonic].\n \*\n \*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun measureTime(block: () -> Unit): Duration {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY\_ONCE)\n }\n return TimeSource.Monotonic.measureTime(block)\n}\n\n/\*\*\n \* Executes the given function [block] and returns the duration of elapsed time interval.\n \*\n \* The elapsed time is measured with the specified `this` [TimeSource] instance.\n \*\n \*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun TimeSource.measureTime(block: () -> Unit): Duration {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY\_ONCE)\n }\n\n val mark = markNow()\n block()\n return mark.elapsedNow()\n}\n\n/\*\*\n \* Data class representing a result of executing an action, along with the duration of elapsed time interval.\n \*\n \* @property value the result of the action.\n \* @property duration the time elapsed to execute the action.\n \*\n \*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic data class TimedValue<T>(val value: T, val duration: Duration)\n\n/\*\*\n \* Executes the given function [block] and returns an instance of [TimedValue] class, containing both\n \* the result of the function execution and the duration of elapsed time interval.\n \*\n \* The elapsed time is measured with [TimeSource.Monotonic].\n \*\n \*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun <T> measureTimedValue(block: () -> T): TimedValue<T> {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY\_ONCE)\n }\n\n return TimeSource.Monotonic.measureTimedValue(block)\n}\n\n/\*\*\n \* Executes the given [block] and returns an instance of [TimedValue] class, containing both\n \* the result of function execution and the duration of elapsed time interval.\n \*\n \* The elapsed time is measured with the specified `this` [TimeSource] instance.\n \*\n \*/\n@SinceKotlin("1.3")\n@ExperimentalTime\npublic inline fun <T> TimeSource.measureTimedValue(block: () -> T): TimedValue<T> {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY\_ONCE)\n }\n\n val mark = markNow()\n val result = block()\n return TimedValue(result, mark.elapsedNow())\n}\n\n"/>\n \* Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n \* Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n \*/\n\npackage kotlin\n\nimport kotlin.coroutines.\*\nimport kotlin.coroutines.intrinsics.\*\nimport kotlin.native.concurrent.SharedImmutable\n\n/\*\*\n \* Defines deep recursive function that keeps its stack on the heap,\n \* which allows very deep recursive computations that do not use the actual call stack.\n \* To initiate a call to this deep recursive function use its [invoke] function.\n \* As a rule of thumb, it should be used if recursion goes deeper than a thousand calls.\n \*\n \* The [DeepRecursiveFunction] takes one parameter of type [T] and returns a result of type [R].\n \* The [block] of code defines the body of a recursive function. In this block\n \* [callRecursive][DeepRecursiveScope.callRecursive] function can be used to make a recursive call\n \* to the declared function. Other instances of [DeepRecursiveFunction] can be called\n \* in this scope with `callRecursive` extension, too.\n \*\n \* For example, take a look at the following recursive tree class and a deeply\n \* recursive instance of this tree with 100K nodes:\n \*\n \* ```\n \* class Tree(val left: Tree? = null, val right: Tree? = null)\n \* val deepTree = generateSequence(Tree()) { Tree(it) }.take(100\_000).last()\n \* ```\n \*\n \* A regular recursive function can be defined to compute a depth of a tree:\n \*\n \* ```\n \* fun depth(t: Tree?): Int =\n \* if (t == null) 0 else\n \* max(depth(t.left), depth(t.right)) + 1\n \* println(depth(deepTree)) // StackOverflowError\n \* ```\n \*\n \* If this `depth` function is called for a `deepTree` it produces [StackOverflowError] because of deep recursion.\n \*\n \* However, the `depth` function can be rewritten using `DeepRecursiveFunction` in the following way, and then\n \* it successfully computes [depth(deepTree)][DeepRecursiveFunction.invoke] expression:\n \*\n \* ```\n \* val depth =\n \* DeepRecursiveFunction<Tree?, Int> { t -> \n \* if (t == null) 0 else max(callRecursive(t.left),\n \* callRecursive(t.right)) + 1\n \* }\n \* println(depth(deepTree)) // Ok\n \* ```\n \*\n \* Deep recursive functions can also mutually call each other using a heap for the stack via\n \* [callRecursive][DeepRecursiveScope.callRecursive] extension. For example, the\n \* following pair of mutually recursive functions computes the number of tree nodes at even depth in the tree.\n \*\n \* ```\n \* val mutualRecursion = object {\n \* val even:\n

```
DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t ->\n *      if (t == null) 0 else
odd.callRecursive(t.left) + odd.callRecursive(t.right) + 1\n *  }\n *  val odd: DeepRecursiveFunction<Tree?,
Int> = DeepRecursiveFunction { t ->\n *      if (t == null) 0 else even.callRecursive(t.left) +
even.callRecursive(t.right)\n *  }\n *  }\n *  ``\n *  \n *  @param [T] the function parameter type.\n *  @param [R]
the function result type.\n *  @param block the function body.\n
*\n @SinceKotlin("1.4")\n @ExperimentalStdlibApi\n public class DeepRecursiveFunction<T, R>(\n     internal val
block: suspend DeepRecursiveScope<T, R>.(T) -> R)\n *\n *  Initiates a call to this deep recursive function,
forming a root of the call tree.\n *\n *  This operator should not be used from inside of [DeepRecursiveScope] as it
uses the call stack slot for\n *  initial recursive invocation. From inside of [DeepRecursiveScope] use\n *
[callRecursive][DeepRecursiveScope.callRecursive].\n
*\n @SinceKotlin("1.4")\n @ExperimentalStdlibApi\n public operator fun <T, R> DeepRecursiveFunction<T,
R>.invoke(value: T): R =\n     DeepRecursiveScopeImpl<T, R>(block, value).runCallLoop()\n *\n *  A scope
class for [DeepRecursiveFunction] function declaration that defines [callRecursive] methods to\n *  recursively call
this function or another [DeepRecursiveFunction] putting the call activation frame on the heap.\n *\n *  @param [T]
function parameter type.\n *  @param [R] function result type.\n
*\n @RestrictsSuspension\n @SinceKotlin("1.4")\n @ExperimentalStdlibApi\n public sealed class
DeepRecursiveScope<T, R> {\n     /**\n     * Makes recursive call to this [DeepRecursiveFunction] function putting
the call activation frame on the heap,\n     * as opposed to the actual call stack that is used by a regular recursive
call.\n     */\n     public abstract suspend fun callRecursive(value: T): R\n     /**\n     * Makes call to the specified
[DeepRecursiveFunction] function putting the call activation frame on the heap,\n     * as opposed to the actual call
stack that is used by a regular call.\n     */\n     public abstract suspend fun <U, S> DeepRecursiveFunction<U,
S>.callRecursive(value: U): S\n     @Deprecated(\n         level = DeprecationLevel.ERROR,\n         message =\n         "\"invoke' should not be called from DeepRecursiveScope. \"\" +\n         \"\"Use 'callRecursive' to do recursion in
the heap instead of the call stack.\"\"",\n         replaceWith = ReplaceWith("\"this.callRecursive(value)\""))\n     )\n     @Suppress("\"UNUSED_PARAMETER\")\n     public operator fun DeepRecursiveFunction<*, *>.invoke(value:
Any?): Nothing =\n         throw UnsupportedOperationException("Should not be called from
DeepRecursiveScope")\n }\n *\n // ===== Implementation
=====\n *\n @ExperimentalStdlibApi\n private typealias DeepRecursiveFunctionBlock = suspend
DeepRecursiveScope<*, *>.(Any?) -> Any?\n *\n @SharedImmutable\n private val UNDEFINED_RESULT =
Result.success(COROUTINE_SUSPENDED)\n *\n @Suppress("\"UNCHECKED_CAST")\n @ExperimentalStdlibApi\n private class DeepRecursiveScopeImpl<T, R>(\n     block: suspend DeepRecursiveScope<T, R>.(T) -> R,\n     value: T)\n : DeepRecursiveScope<T, R>(), Continuation<R> {\n     // Active function block\n     private var
function: DeepRecursiveFunctionBlock = block as DeepRecursiveFunctionBlock\n     // Value to call function
with\n     private var value: Any? = value\n     // Continuation of the current call\n     private var cont:
Continuation<Any?>? = this as Continuation<Any?>\n     // Completion result (completion of the whole call
stack)\n     private var result: Result<Any?> = UNDEFINED_RESULT\n     override val context:
CoroutineContext\n         get() = EmptyCoroutineContext\n     override fun resumeWith(result: Result<R>) {\n         this.cont = null\n         this.result = result\n     }\n     override suspend fun callRecursive(value: T): R =
suspendCoroutineUninterceptedOrReturn { cont ->\n         // calling the same function that is currently active\n         this.cont = cont as Continuation<Any?>\n         this.value = value\n         COROUTINE_SUSPENDED\n     }\n     override suspend fun <U, S> DeepRecursiveFunction<U, S>.callRecursive(value: U): S =
suspendCoroutineUninterceptedOrReturn { cont ->\n         // calling another recursive function\n         val function =
block as DeepRecursiveFunctionBlock\n         with(this@DeepRecursiveScopeImpl) {\n             val currentFunction
= this.function\n             if (function !== currentFunction) {\n                 // calling a different function -- create a
trampoline to restore function ref\n                 this.function = function\n                 this.cont =
crossFunctionCompletion(currentFunction, cont as Continuation<Any?>)\n             } else {\n                 // calling the
same function -- direct\n                 this.cont = cont as Continuation<Any?>\n             }\n             this.value = value\n         }\n         COROUTINE_SUSPENDED\n     }\n     private fun crossFunctionCompletion(\n         currentFunction:
```

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DeepRecursiveFunctionBlock, \n    cont: Continuation<Any?>\n ): Continuation<Any?> =
Continuation(EmptyCoroutineContext) {\n    this.function = currentFunction\n    // When going back from a
trampoline we cannot just call cont.resume (stack usage!)\n    // We delegate the cont.resumeWith(it) call to
runCallLoop\n    this.cont = cont\n    this.result = it\n } \n @Suppress(\"UNCHECKED_CAST\")\n fun
runCallLoop(): R {\n    while (true) {\n    // Note: cont is set to null in DeepRecursiveScopeImpl.resumeWith
when the whole computation completes\n    val result = this.result\n    val cont = this.cont\n    ?:
return (result as Result<R>).getOrThrow() // done -- final result\n    // The order of comparison is important
here for that case of rogue class with broken equals\n    if (UNDEFINED_RESULT == result) {\n    //
call \"function\" with \"value\" using \"cont\" as completion\n    val r = try {\n    // This is
block.startCoroutine(this, value, cont)\n    function.startCoroutineUninterceptedOrReturn(this, value,
cont)\n    } catch (e: Throwable) {\n    cont.resumeWithException(e)\n    continue\n
}\n    // If the function returns without suspension -- calls its continuation immediately\n    if (r !==
COROUTINE_SUSPENDED)\n    cont.resume(r as R)\n    } else {\n    // we returned from a
crossFunctionCompletion trampoline -- call resume here\n    this.result = UNDEFINED_RESULT // reset
result back\n    cont.resumeWith(result)\n    }\n }\n }\n }\n } \"/>\n * Copyright 2010-2022
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n * \n\n// Auto-generated file. DO NOT
EDIT!\n\n@file:kotlin.jvm.JvmName(\"NumbersKt\")\n@file:kotlin.jvm.JvmMultifileClass\npackage
kotlin\n\nimport kotlin.math.sign\n\n/** Divides this value by the other value, flooring the result to an integer that is
closer to negative infinity. *\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Byte): Int = \n    this.toInt().floorDiv(other.toInt())\n\n/** \n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
_divisor_ and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Byte): Byte = \n
this.toInt().mod(other.toInt()).toByte()\n\n/** Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Short): Int = \n    this.toInt().floorDiv(other.toInt())\n\n/** \n * Calculates the remainder of
flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
_divisor_ and has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Short): Short = \n
this.toInt().mod(other.toInt()).toShort()\n\n/** Divides this value by the other value, flooring the result to an integer
that is closer to negative infinity. *\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.floorDiv(other: Int): Int = \n    this.toInt().floorDiv(other)\n\n/** \n * Calculates the remainder of flooring
division of this value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and
has the absolute value less than the absolute value of the divisor.\n
*\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.mod(other: Int): Int = \n
this.toInt().mod(other)\n\n/** Divides this value by the other value, flooring the result to an integer that is closer to
negative infinity. *\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.floorDiv(other:
Long): Long = \n    this.toLong().floorDiv(other)\n\n/** \n * Calculates the remainder of flooring division of this
value by the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute
value less than the absolute value of the divisor.\n * \n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic
inline fun Byte.mod(other: Long): Long = \n    this.toLong().mod(other)\n\n/** Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*\n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Byte): Int = \n
this.toInt().floorDiv(other.toInt())\n\n/** \n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n * \n@SinceKotlin(\"1.5\")\n@kotlin.internal.InlineOnly\npublic inline fun
Short.mod(other: Byte): Byte = \n    this.toInt().mod(other.toInt()).toByte()\n\n/** Divides this value by the other

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value, flooring the result to an integer that is closer to negative infinity.

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*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Short): Int = \nthis.toInt().floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun\nShort.mod(other: Short): Short = \nthis.toInt().mod(other.toInt()).toShort()\n\n/**\n * Divides this value by the other\n * value, flooring the result to an integer that is closer to negative infinity.
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*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Int): Int = \nthis.toInt().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun\nShort.mod(other: Int): Int = \nthis.toInt().mod(other)\n\n/**\n * Divides this value by the other value, flooring the\n * result to an integer that is closer to negative infinity.
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```
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Short.floorDiv(other: Long): Long = \nthis.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun\nShort.mod(other: Long): Long = \nthis.toLong().mod(other)\n\n/**\n * Divides this value by the other value, flooring\n * the result to an integer that is closer to negative infinity.
```

```
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Byte): Int = \nthis.floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun\nInt.mod(other: Byte): Byte = \nthis.mod(other.toInt()).toByte()\n\n/**\n * Divides this value by the other value,\n * flooring the result to an integer that is closer to negative infinity.
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*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Short): Int = \nthis.floorDiv(other.toInt())\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun\nInt.mod(other: Short): Short = \nthis.mod(other.toInt()).toShort()\n\n/**\n * Divides this value by the other value,\n * flooring the result to an integer that is closer to negative infinity.
```

```
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Int): Int {\n    var q =\n        this / other\n    if (this xor other < 0 && q * other != this) q--\n    return q\n}\n\n/**\n * Calculates the remainder of\n * flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the\n * _divisor_ and has the absolute value less than the absolute value of the divisor.\n */
```

```
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.mod(other: Int): Int {\n    val r = this\n        % other\n    return r + (other and (((r xor other) and (r or -r)) shr 31))\n}\n\n/**\n * Divides this value by the other value,\n * flooring the result to an integer that is closer to negative infinity.
```

```
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Int.floorDiv(other: Long): Long = \nthis.toLong().floorDiv(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun\nInt.mod(other: Long): Long = \nthis.toLong().mod(other)\n\n/**\n * Divides this value by the other value, flooring\n * the result to an integer that is closer to negative infinity.
```

```
*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Byte): Long = \nthis.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other\n * value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the\n * absolute value of the divisor.\n */\n\n*\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
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Long.mod(other: Byte): Byte = \n  this.mod(other.toLong()).toByte()\n\n/** Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Short): Long = \n
this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Long.mod(other: Short): Short = \n  this.mod(other.toLong()).toShort()\n\n/** Divides this value by the other
value, flooring the result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Int): Long = \n
this.floorDiv(other.toLong())\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun
Long.mod(other: Int): Int = \n  this.mod(other.toLong()).toInt()\n\n/** Divides this value by the other value,
flooring the result to an integer that is closer to negative infinity.
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.floorDiv(other: Long): Long {\n
var q = this / other\n  if (this xor other < 0 && q * other != this) q--\n  return q\n}\n\n/**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign
as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Long.mod(other: Long): Long {\n  val r
= this % other\n  return r + (other and (((r xor other) and (r or -r)) shr 63))\n}\n\n/**\n * Calculates the remainder
of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign as the
_divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be
represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result
can be less than or _equal to_ the absolute value of the divisor.\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Float.mod(other: Float): Float {\n  val r
= this % other\n  return if (r != 0.0.toFloat() && r.sign != other.sign) r + other else r\n}\n\n/**\n * Calculates the
remainder of flooring division of this value by the other value.\n * \n * The result is either zero or has the same sign
as the _divisor_ and has the absolute value less than the absolute value of the divisor.\n * \n * If the result cannot be
represented exactly, it is rounded to the nearest representable number. In this case the absolute value of the result
can be less than or _equal to_ the absolute value of the divisor.\n
*/\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Float.mod(other: Double): Double = \n
this.toDouble().mod(other)\n\n/**\n * Calculates the remainder of flooring division of this value by the other
value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less than the
absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest
representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of
the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Double.mod(other: Float):
Double = \n  this.mod(other.toDouble())\n\n/**\n * Calculates the remainder of flooring division of this value by
the other value.\n * \n * The result is either zero or has the same sign as the _divisor_ and has the absolute value less
than the absolute value of the divisor.\n * \n * If the result cannot be represented exactly, it is rounded to the nearest
representable number. In this case the absolute value of the result can be less than or _equal to_ the absolute value of
the divisor.\n */\n@SinceKotlin("1.5")\n@kotlin.internal.InlineOnly\npublic inline fun Double.mod(other:
Double): Double {\n  val r = this % other\n  return if (r != 0.0 && r.sign != other.sign) r + other else
r\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\n\n/**\n * Returns a hash code value for the object or
zero if the object is `null`.\n * \n * @see Any.hashCode\n */\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline
fun Any?.hashCode(): Int = this?.hashCode() ?: 0\n"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be

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found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Represents a version of the Kotlin standard library.\n * [major], [minor] and [patch] are integer components of a version,\n * they must be non-negative and not greater than 255 ([MAX_COMPONENT_VALUE]).\n * @constructor Creates a version from all three components.\n */\n@SinceKotlin("1.1")\npublic class KotlinVersion(val major: Int, val minor: Int, val patch: Int) : Comparable<KotlinVersion> {\n    /**\n     * Creates a version from [major] and [minor] components, leaving [patch] component zero.\n     */\n    public constructor(major: Int, minor: Int) : this(major, minor, 0)\n\n    private val version = versionOf(major, minor, patch)\n\n    private fun versionOf(major: Int, minor: Int, patch: Int): Int {\n        require(major in 0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in 0..MAX_COMPONENT_VALUE) {\n            "Version components are out of range: $major.$minor.$patch"\n        }\n        return major.shl(16) + minor.shl(8) + patch\n    }\n\n    /**\n     * Returns the string representation of this version.\n     */\n    override fun toString(): String = "$major.$minor.$patch"\n\n    override fun equals(other: Any?): Boolean {\n        if (this === other) return true\n        val otherVersion = (other as? KotlinVersion) ?: return false\n        return this.version == otherVersion.version\n    }\n\n    override fun hashCode(): Int = version\n\n    override fun compareTo(other: KotlinVersion): Int = version - other.version\n\n    /**\n     * Returns `true` if this version is not less than the version specified\n     * with the provided [major] and [minor] components.\n     */\n    public fun isAtLeast(major: Int, minor: Int): Boolean = // this.version >= versionOf(major, minor, 0)\n        this.major > major || (this.major == major && this.minor >= minor)\n\n    /**\n     * Returns `true` if this version is not less than the version specified\n     * with the provided [major], [minor] and [patch] components.\n     */\n    public fun isAtLeast(major: Int, minor: Int, patch: Int): Boolean = // this.version >= versionOf(major, minor, patch)\n        this.major > major || (this.major == major && (this.minor > minor || this.minor == minor && this.patch >= patch))\n\n    companion object {\n        /**\n         * Maximum value a version component can have, a constant value 255.\n         */\n        // NOTE: Must be placed before CURRENT because its initialization requires this field being initialized in JS\n        public const val MAX_COMPONENT_VALUE = 255\n\n        /**\n         * Returns the current version of the Kotlin standard library.\n         */\n        @kotlin.jvm.JvmField\n        public val CURRENT: KotlinVersion = KotlinVersionCurrentValue.get()\n    }\n}\n\n// this class is ignored during classpath normalization when considering whether to recompile dependencies in Kotlin build\nprivate object KotlinVersionCurrentValue {\n    @kotlin.jvm.JvmStatic\n    fun get(): KotlinVersion = KotlinVersion(1, 6, 21) // value is written here automatically during build\n}, /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("LateinitKt")\n@file:Suppress("unused")\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\nimport kotlin.internal.AccessibleLateinitPropertyLiteral\nimport kotlin.reflect.KProperty0\n\n/**\n * Returns `true` if this lateinit property has been assigned a value, and `false` otherwise.\n * Cannot be used in an inline function, to avoid binary compatibility issues.\n */\n\n@SinceKotlin("1.2")\n@InlineOnly\ninline val @receiver:AccessibleLateinitPropertyLiteral KProperty0<*>.isInitialized: Boolean\n    get() = throw NotImplementedError("Implementation is intrinsic")\n}, /*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("LazyKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin\n\nimport kotlin.reflect.KProperty\n\n/**\n * Represents a value with lazy initialization.\n * To create an instance of [Lazy] use the [lazy] function.\n */\n\npublic interface Lazy<out T> {\n    /**\n     * Gets the lazily initialized value of the current Lazy instance.\n     * Once the value was initialized it must not change during the rest of lifetime of this Lazy instance.\n     */\n    public val value: T\n\n    /**\n     * Returns `true` if a value for this Lazy instance has been already initialized, and `false` otherwise.\n     * Once this function has returned `true` it stays `true` for the rest of lifetime of this Lazy instance.\n     */\n    public fun isInitialized(): Boolean\n}\n\n/**\n * Creates a new instance of the [Lazy] that is already initialized with the specified [value].\n */\n\npublic fun <T> lazyOf(value: T): Lazy<T> = InitializedLazyImpl(value)\n\n/**\n * An extension to delegate a read-only property of type [T] to an instance of [Lazy].\n * This extension allows to use instances of Lazy for property delegation:\n * `val property: String by

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lazy { initializer }`n *^@kotlin.internal.InlineOnly\npublic inline operator fun <T> Lazy<T>.getValue(thisRef:
Any?, property: KProperty<*>): T = value\n\n/**\n * Specifies how a [Lazy] instance synchronizes initialization
among multiple threads.\n *^npublic enum class LazyThreadSafetyMode {\n\n    /**\n     * Locks are used to ensure
that only a single thread can initialize the [Lazy] instance.\n     *^n    SYNCHRONIZED,\n\n    /**\n     * Initializer
function can be called several times on concurrent access to uninitialized [Lazy] instance value,\n     * but only the
first returned value will be used as the value of [Lazy] instance.\n     *^n    PUBLICATION,\n\n    /**\n     * No
locks are used to synchronize an access to the [Lazy] instance value; if the instance is accessed from multiple
threads, its behavior is undefined.\n     *\n     * This mode should not be used unless the [Lazy] instance is
guaranteed never to be initialized from more than one thread.\n     *^n    NONE,\n}\n\n\ninternal object
UNINITIALIZED_VALUE\n\n// internal to be called from lazy in JS\ninternal class UnsafeLazyImpl<out
T>(initializer: () -> T) : Lazy<T>, Serializable {\n    private var initializer: (() -> T)? = initializer\n    private var
_value: Any? = UNINITIALIZED_VALUE\n\n    override val value: T\n        get() {\n            if (_value ===
UNINITIALIZED_VALUE) {\n                _value = initializer!!()\n                initializer = null\n            }\n
@Suppress("UNCHECKED_CAST")\n            return _value as T\n        }\n\n    override fun isInitialized():
Boolean = _value != UNINITIALIZED_VALUE\n\n    override fun toString(): String = if (isInitialized())
value.toString() else "Lazy value not initialized yet."\n\n    private fun writeReplace(): Any =
InitializedLazyImpl(value)\n}\n\n\ninternal class InitializedLazyImpl<out T>(override val value: T) : Lazy<T>,
Serializable {\n\n    override fun isInitialized(): Boolean = true\n\n    override fun toString(): String =
value.toString()\n}\n\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n
*^n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("NumbersKt")\npackage kotlin\n\n/**\n *
Counts the number of set bits in the binary representation of this [Int] number.\n
*^n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary
representation of this [Int] number.\n
*^n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Int] number.\n
*^n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
*^n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeHighestOneBit(): Int\n\n/**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Int] number,\n * or zero, if this number is zero.\n
*^n\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.takeLowestOneBit(): Int\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified
[bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least
significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it
right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple
of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 32)`\n
*^n\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.rotateLeft(bitCount: Int): Int\n\n/**\n * Rotates the binary representation of this [Int] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a
multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) ==

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number.rotateRight(n % 32)`n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Int.rotateRight(bitCount: Int): Int\n\n**\n * Counts the number of set bits in the binary representation of this
[Long] number.\n *\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect
fun Long.countOneBits(): Int\n\n**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countLeadingZeroBits(): Int\n\n**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [Long] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.countTrailingZeroBits(): Int\n\n**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.takeHighestOneBit(): Long\n\n**\n * Returns a number having a single bit set in the position of the least
significant set bit of this [Long] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.takeLowestOneBit(): Long\n\n**\n * Rotates the binary representation of this [Long] number left by the
specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as
the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as
rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) ==
number.rotateLeft(n % 64)`n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.rotateLeft(bitCount: Int): Long\n\n**\n * Rotates the binary representation of this [Long] number right by the
specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number
as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as
rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a
multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) ==
number.rotateRight(n % 64)`n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun
Long.rotateRight(bitCount: Int): Long\n\n**\n * Counts the number of set bits in the binary representation of this
[Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countOneBits(): Int = (toInt() and 0xFF).countOneBits()\n\n**\n * Counts the number of
consecutive most significant bits that are zero in the binary representation of this [Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countLeadingZeroBits(): Int = (toInt() and 0xFF).countLeadingZeroBits() - (Int.SIZE_BITS -
Byte.SIZE_BITS)\n\n**\n * Counts the number of consecutive least significant bits that are zero in the binary
representation of this [Byte] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.countTrailingZeroBits(): Int = (toInt() or 0x100).countTrailingZeroBits()\n\n**\n * Returns a
number having a single bit set in the position of the most significant set bit of this [Byte] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Byte.takeHighestOneBit(): Byte = (toInt() and 0xFF).takeHighestOneBit().toByte()\n\n**\n * Returns a
number having a single bit set in the position of the least significant set bit of this [Byte] number,\n * or zero, if this
number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli

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c inline fun Byte.takeLowestOneBit(): Byte = toInt().takeLowestOneBit().toByte()\n\n/**\n * Rotates the binary representation of this [Byte] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Byte.rotateLeft(bitCount: Int): Byte =\n    (toInt().shl(bitCount and 7) or (toInt() and 0xFF).ushr(8 - (bitCount and 7))).toByte()\n\n/**\n * Rotates the binary representation of this [Byte] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Byte.rotateRight(bitCount: Int): Byte =\n    (toInt().shl(8 - (bitCount and 7)) or (toInt() and 0xFF).ushr(bitCount and 7)).toByte()\n\n/**\n * Counts the number of set bits in the binary representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.countOneBits(): Int = (toInt() and 0xFFFF).countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.countLeadingZeroBits(): Int =\n    (toInt() and 0xFFFF).countLeadingZeroBits() - (Int.SIZE_BITS - Short.SIZE_BITS)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Short] number.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.countTrailingZeroBits(): Int = (toInt() or 0x10000).countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Short] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.takeHighestOneBit(): Short = (toInt() and 0xFFFF).takeHighestOneBit().toShort()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Short] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.4")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.takeLowestOneBit(): Short = toInt().takeLowestOneBit().toShort()\n\n/**\n * Rotates the binary representation of this [Short] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
Short.rotateLeft(bitCount: Int): Short =\n    (toInt().shl(bitCount and 15) or (toInt() and 0xFFFF).ushr(16 - (bitCount and 15))).toShort()\n\n/**\n * Rotates the binary representation of this [Short] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun

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Short.rotateRight(bitCount: Int): Short =\n  (toInt().shl(16 - (bitCount and 15)) or (toInt() and
0xFFFF).ushr(bitCount and 15)).toShort()\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming
Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.2")\n@Suppress("IN
VISIBLE_MEMBER", "INVISIBLE_REFERENCE")\n@RequireKotlin("1.2.30", level =
DeprecationLevel.HIDDEN, versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic inline fun
<R> suspend(noinline block: suspend () -> R): suspend () -> R = block\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("TuplesKt")\n\npackage kotlin\n\n/**\n * Represents a generic pair of two
values.\n * There is no meaning attached to values in this class, it can be used for any purpose.\n * Pair exhibits
value semantics, i.e. two pairs are equal if both components are equal.\n * An example of decomposing it into
values:\n * @sample samples.misc.Tuples.pairDestructuring\n * @param A type of the first value.\n * @param
B type of the second value.\n * @property first First value.\n * @property second Second value.\n * @constructor
Creates a new instance of Pair.\n */\n\npublic data class Pair<out A, out B>(\n  public val first: A,\n  public val
second: B\n) : Serializable {\n\n  /**\n   * Returns string representation of the [Pair] including its [first] and
[second] values.\n   */\n  public override fun toString(): String = "$first, $second"\n}\n\n/**\n * Creates a tuple
of type [Pair] from this and [that].\n * This can be useful for creating [Map] literals with less noise, for
example:\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n */\n\npublic infix fun <A, B>
A.to(that: B): Pair<A, B> = Pair(this, that)\n\n/**\n * Converts this pair into a list.\n * @sample
samples.misc.Tuples.pairToList\n */\n\npublic fun <T> Pair<T, T>.toList(): List<T> = listOf(first, second)\n\n/**\n *
Represents a triad of values\n * There is no meaning attached to values in this class, it can be used for any
purpose.\n * Triple exhibits value semantics, i.e. two triples are equal if all three components are equal.\n * An
example of decomposing it into values:\n * @sample samples.misc.Tuples.tripleDestructuring\n * @param A
type of the first value.\n * @param B type of the second value.\n * @param C type of the third value.\n * @property
first First value.\n * @property second Second value.\n * @property third Third value.\n */\n\npublic data class
Triple<out A, out B, out C>(\n  public val first: A,\n  public val second: B,\n  public val third: C\n) : Serializable
{\n\n  /**\n   * Returns string representation of the [Triple] including its [first], [second] and [third] values.\n
*/\n  public override fun toString(): String = "$first, $second, $third"\n}\n\n/**\n * Converts this triple into a
list.\n * @sample samples.misc.Tuples.tripleToList\n */\n\npublic fun <T> Triple<T, T, T>.toList(): List<T> =
listOf(first, second, third)\n", "/*\n * Copyright 2010-2022 JetBrains s.r.o. and Kotlin Programming Language
contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the
license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.*\n\n/**\n * A range of values of type `UInt`.\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic class UIntRange(start:
UInt, endInclusive: UInt) : UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {\n  override val start:
UInt get() = first\n  override val endInclusive: UInt get() = last\n\n  override fun contains(value: UInt): Boolean =
first <= value && value <= last\n\n  /**\n   * Checks if the range is empty.\n   */\n  override fun isEmpty(): Boolean = first > last\n\n  override fun
equals(other: Any?): Boolean =\n    other is UIntRange && (isEmpty() && other.isEmpty()) ||\n    first ==
other.first && last == other.last\n\n  override fun hashCode(): Int =\n    if (isEmpty()) -1 else (31 * first.toInt()
+ last.toInt())\n\n  override fun toString(): String = "$first..$last"\n\n  companion object {\n    /** An empty
range of values of type UInt. */\n    public val EMPTY: UIntRange = UIntRange(UInt.MAX_VALUE,
UInt.MIN_VALUE)\n  }\n}\n\n/**\n * A progression of values of type `UInt`.\n
*/\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic open class
UIntProgression\n\ninternal constructor(\n  start: UInt,\n  endInclusive: UInt,\n  step: Int\n) : Iterable<UInt> {\n
init {\n  if (step == 0.toInt()) throw kotlin.IllegalArgumentException("Step must be non-zero.")\n  if (step

```



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ClosedRange<ULong> {\n  override val start: ULong get() = first\n  override val endInclusive: ULong get() =
last\n\n  override fun contains(value: ULong): Boolean = first <= value && value <= last\n\n  /**\n   * Checks
if the range is empty.\n   *\n   * The range is empty if its start value is greater than the end value.\n   */\n
  override fun isEmpty(): Boolean = first > last\n\n  override fun equals(other: Any?): Boolean =\n    other is
ULongRange && (isEmpty() && other.isEmpty()) ||\n        first == other.first && last == other.last\n\n
  override fun hashCode(): Int =\n    if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() + (last xor (last shr
32)).toInt())\n\n  override fun toString(): String = \"$first..$last\"\n\n  companion object {\n    /** An empty
range of values of type ULong. */\n    public val EMPTY: ULongRange = ULongRange(ULong.MAX_VALUE,
ULong.MIN_VALUE)\n  }\n\n  /**\n   * A progression of values of type `ULong`.\n
  */\n  @SinceKotlin("1.5")\n  @WasExperimental(ExperimentalUnsignedTypes::class)\n  public open class
ULongProgression\n    internal constructor(\n      start: ULong,\n      endInclusive: ULong,\n      step: Long\n    ) :
Iterable<ULong> {\n    init {\n      if (step == 0.toLong()) throw kotlin.IllegalArgumentException("Step must be
non-zero.")\n      if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException("Step must be greater
than Long.MIN_VALUE to avoid overflow on negation.")\n    }\n\n    /**\n     * The first element in the
progression.\n     */\n    public val first: ULong = start\n\n    /**\n     * The last element in the progression.\n     */\n    public val last: ULong = getProgressionLastElement(start, endInclusive, step)\n\n    /**\n     * The step of the
progression.\n     */\n    public val step: Long = step\n\n    final override fun iterator(): Iterator<ULong> =
ULongProgressionIterator(first, last, step)\n\n    /**\n     *\n     * Checks if the progression is empty.\n     *\n     *
Progression with a positive step is empty if its first element is greater than the last element.\n     *\n     * Progression with a
negative step is empty if its first element is less than the last element.\n     */\n    public open fun isEmpty(): Boolean
= if (step > 0) first > last else first < last\n\n    override fun equals(other: Any?): Boolean =\n      other is
ULongProgression && (isEmpty() && other.isEmpty()) ||\n          first == other.first && last == other.last &&
step == other.step)\n\n    override fun hashCode(): Int =\n      if (isEmpty()) -1 else (31 * (31 * (first xor (first shr
32)).toInt() + (last xor (last shr 32)).toInt()) + (step xor (step ushr 32)).toInt())\n\n    override fun toString(): String =
if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n    companion object {\n
      /**\n       * Creates ULongProgression within the specified bounds of a closed range.\n       *\n       * The progression
starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n
       *\n       * In order to go backwards the [step] must be negative.\n       *\n       * [step] must be greater than
`Long.MIN_VALUE` and not equal to zero.\n       */\n      public fun fromClosedRange(rangeStart: ULong,
rangeEnd: ULong, step: Long): ULongProgression = ULongProgression(rangeStart, rangeEnd, step)\n
    }\n\n    /**\n     *\n     * An iterator over a progression of values of type `ULong`. * @property step the number by which
the value is incremented on each step.\n     */\n  }\n\n  @SinceKotlin("1.3")\n  @Suppress("DEPRECATION_ERROR")\n  private class
ULongProgressionIterator(first: ULong, last: ULong, step: Long) : ULongIterator() {\n    private val finalElement =
last\n    private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n    private val step =
step.toULong() // use 2-complement math for negative steps\n    private var next = if (hasNext) first else
finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n    override fun nextULong(): ULong {\n      val
value = next\n      if (value == finalElement) {\n        if (!hasNext) throw kotlin.NoSuchElementException()\n
        hasNext = false\n      } else {\n        next += step\n      }\n      return value\n    }\n  }\n\n  /**\n   * Copyright
2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n   * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n   */\n  @package kotlin.math\n  /**\n   *
Returns the smaller of two values.\n   */\n  @SinceKotlin("1.5")\n  @WasExperimental(ExperimentalUnsignedTypes::class)\n  @kotlin.internal.InlineOnly\n  public inline fun min(a: UInt, b: UInt): UInt {\n    return minOf(a, b)\n  }\n\n  /**\n   * Returns the smaller of two
values.\n   */\n  @SinceKotlin("1.5")\n  @WasExperimental(ExperimentalUnsignedTypes::class)\n  @kotlin.internal.InlineOnly\n  public inline fun min(a: ULong, b: ULong): ULong {\n    return minOf(a, b)\n  }\n\n  /**\n   * Returns the greater of
two values.\n   */

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*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun max(a: UInt, b: UInt): UInt {\n    return maxOf(a, b)\n}\n\n/**\n * Returns the greater of two values.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun max(a: ULong, b: ULong): ULong {\n    return maxOf(a, b)\n}\n\n/**\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName("UNumbersKt")\npackage kotlin\n\n/**\n * Counts the number of set bits in the binary representation of this [UInt] number.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countOneBits(): Int =\ntoInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [UInt] number.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countLeadingZeroBits(): Int =\ntoInt().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [UInt] number.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countTrailingZeroBits(): Int =\ntoInt().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeHighestOneBit(): UInt =\ntoInt().takeHighestOneBit().toUInt()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeLowestOneBit(): UInt =\ntoInt().takeLowestOneBit().toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n */\n*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,\nExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateLeft(bitCount: Int): UInt =\ntoInt().rotateLeft(bitCount).toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n */\n*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,\nExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateRight(bitCount: Int): UInt =\ntoInt().rotateRight(bitCount).toUInt()\n\n/**\n * Counts the number of set bits in the binary representation of this [ULong] number.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,\nExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countOneBits(): Int =\ntoLong().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [ULong] number.\n */\n*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,

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ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countLeadingZeroBits(): Int
= toLong().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [ULong] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countTrailingZeroBits(): Int
= toLong().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeHighestOneBit(): ULong
= toLong().takeHighestOneBit().toULong()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeLowestOneBit(): ULong
= toLong().takeLowestOneBit().toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number left
by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n * \n * Rotating the number left by a negative bit count is the
same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * \n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n *
`number.rotateLeft(n) == number.rotateLeft(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateLeft(bitCount:
Int): ULong = toLong().rotateLeft(bitCount).toULong()\n\n/**\n * Rotates the binary representation of this [ULong]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits on the left side.\n * \n * Rotating the number right by a negative bit
count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n
*\n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 64)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateRight(bitCount:
Int): ULong = toLong().rotateRight(bitCount).toULong()\n\n/**\n * Counts the number of set bits in the binary
representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countLeadingZeroBits(): Int =
toByte().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in
the binary representation of this [UByte] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countTrailingZeroBits(): Int =
toByte().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeHighestOneBit(): UByte
= toInt().takeHighestOneBit().toUByte()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,

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ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeLowestOneBit(): UByte =
toInt().takeLowestOneBit().toUByte()\n\n/**\n * Rotates the binary representation of this [UByte] number left by
the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n * \n * Rotating the number left by a negative bit count is the
same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * \n *
Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n *
`number.rotateLeft(n) == number.rotateLeft(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateLeft(bitCount:
Int): UByte = toByte().rotateLeft(bitCount).toUByte()\n\n/**\n * Rotates the binary representation of this [UByte]
number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side
reenter the number as the most significant bits on the left side.\n * \n * Rotating the number right by a negative bit
count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n
*\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n *
`number.rotateRight(n) == number.rotateRight(n % 8)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateRight(bitCount:
Int): UByte = toByte().rotateRight(bitCount).toUByte()\n\n/**\n * Counts the number of set bits in the binary
representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countOneBits(): Int =
toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the
binary representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countLeadingZeroBits(): Int
= toShort().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero
in the binary representation of this [UShort] number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countTrailingZeroBits(): Int
= toShort().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most
significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeHighestOneBit(): UShort
= toInt().takeHighestOneBit().toUShort()\n\n/**\n * Returns a number having a single bit set in the position of the
least significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class,
ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeLowestOneBit(): UShort
= toInt().takeLowestOneBit().toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number left
by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the
number as the least significant bits on the right side.\n * \n * Rotating the number left by a negative bit count is the
same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n * \n *
Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more generally\n *
`number.rotateLeft(n) == number.rotateLeft(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateLeft(bitCount:
Int): UShort = toShort().rotateLeft(bitCount).toUShort()\n\n/**\n * Rotates the binary representation of this
[UShort] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the
right side reenter the number as the most significant bits on the left side.\n * \n * Rotating the number right by a

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negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) ==
number.rotateLeft(n)`\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more
generally\n * `number.rotateRight(n) == number.rotateRight(n % 16)`\n
*\n@SinceKotlin("1.6")\n@WasExperimental(ExperimentalStdlibApi::class,
ExperimentalUnsignedTypes::class)\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateRight(bitCount:
Int): UShort = toShort().rotateRight(bitCount).toUShort()\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o. and Kotlin
Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be
found in the license/LICENSE.txt file.\n *\npackage kotlin.internal\n// (a - b) mod c\nprivate fun
differenceModulo(a: UInt, b: UInt, c: UInt): UInt {\n    val ac = a % c\n    val bc = b % c\n    return if (ac >= bc) ac -
bc else ac - bc + c}\n\nprivate fun differenceModulo(a: ULong, b: ULong, c: ULong): ULong {\n    val ac = a %
c\n    val bc = b % c\n    return if (ac >= bc) ac - bc else ac - bc + c}\n\n/**\n * Calculates the final element of a
bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end]
in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <=
end`,\n * - or `step < 0` and `start >= end`.\n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: UInt, end: UInt, step:
Int): UInt = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())\n
step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())\n    else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <=
end`,\n * - or `step < 0` and `start >= end`.\n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: ULong, end: ULong,
step: Long): ULong = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start,
step.toULong())\n    step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toULong())\n
else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n", "/*\n * Copyright 2010-2021 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n *\n@file:kotlin.jvm.JvmName("UStringsKt") // string
representation of unsigned numbers\n\npackage kotlin.text\n\n/**\n * Returns a string representation of this [Byte]
value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid radix for
number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n//@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UByte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string
representation of this [Short] value in the specified [radix].\n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n//@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UShort.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string
representation of this [Int] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is
not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\n//@kotlin.internal.InlineOnly
\npublic /*inline*/ fun UInt.toString(radix: Int): String = this.toLong().toString(radix)\n\n/**\n * Returns a string
representation of this [Long] value in the specified [radix].\n * @throws IllegalArgumentException when [radix]
is not a valid radix for number to string conversion.\n

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*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
ULong.toString(radix: Int): String = ulongToString(this.toLong(), checkRadix(radix))\n\n/**\n * Parses the string
as a signed [UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toUByte():
UByte = toUByteOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a signed [UByte] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByte(radix: Int): UByte = toUByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the
string as a [UShort] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toUShort():
UShort = toUShortOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [UShort] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShort(radix: Int): UShort = toUShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the
string as an [UInt] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toUInt():
UInt = toUIntOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as an [UInt] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUInt(radix: Int): UInt = toUIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a
[ULong] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun String.toULong():
ULong = toULongOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [ULong] number and
returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n *
@throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULong(radix: Int): ULong = toULongOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses
the string as an [UByte] number and returns the result\n * or `null` if the string is not a valid representation of a
number.\n *\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByteOrNull(): UByte? = toUByteOrNull(radix = 10)\n\n/**\n * Parses the string as an [UByte] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUByteOrNull(radix: Int): UByte? {\n    val int = this.toUIntOrNull(radix) ?: return null\n    if (int >
UByte.MAX_VALUE) return null\n    return int.toUByte()\n}\n\n/**\n * Parses the string as an [UShort] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUShortOrNull(): UShort? = toUShortOrNull(radix = 10)\n\n/**\n * Parses the string as an [UShort] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun

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String.toUShortOrNull(radix: Int): UShort? {\n    val int = this.toUIntOrNull(radix)?: return null\n    if (int >
UShort.MAX_VALUE) return null\n    return int.toUShort()\n}\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n
*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(): UInt? = toUIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [UInt] number and
returns the result\n * or `null` if the string is not a valid representation of a number.\n * \n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toUIntOrNull(radix: Int): UInt? {\n    checkRadix(radix)\n    val length = this.length\n    if (length == 0)
return null\n    val limit: UInt = UInt.MAX_VALUE\n    val start: Int\n    val firstChar = this[0]\n    if (firstChar
< '0') {\n        if (length == 1 || firstChar != '+') return null\n        start = 1\n    } else {\n        start = 0\n    }\n    val
limitForMaxRadix = 119304647u // limit / 36\n    val limitBeforeMul = limitForMaxRadix\n    val uradix =
radix.toUInt()\n    var result = 0u\n    for (i in start until length) {\n        val digit = digitOf(this[i], radix)\n        if
(digit < 0) return null\n        if (result > limitBeforeMul) {\n            if (limitBeforeMul == limitForMaxRadix) {\n
                limitBeforeMul = limit / uradix\n                if (result > limitBeforeMul) {\n                    return null\n
                }\n            } else {\n                return null\n            }\n        }\n        result *= uradix\n        val beforeAdding =
result\n        result += digit.toUInt()\n        if (result < beforeAdding) return null // overflow has happened\n    }\n    return result\n}\n\n/**\n * Parses the string as an [ULong] number and returns the result\n * or `null` if the string is
not a valid representation of a number.\n
*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULongOrNull(): ULong? = toULongOrNull(radix = 10)\n\n/**\n * Parses the string as an [ULong] number
and returns the result\n * or `null` if the string is not a valid representation of a number.\n * \n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n\n@SinceKotlin("1.5")\n@WasExperimental(ExperimentalUnsignedTypes::class)\npublic fun
String.toULongOrNull(radix: Int): ULong? {\n    checkRadix(radix)\n    val length = this.length\n    if (length ==
0) return null\n    val limit: ULong = ULong.MAX_VALUE\n    val start: Int\n    val firstChar = this[0]\n    if
(firstChar < '0') {\n        if (length == 1 || firstChar != '+') return null\n        start = 1\n    } else {\n        start = 0\n
    }\n    val limitForMaxRadix = 512409557603043100uL // limit / 36\n    val limitBeforeMul =
limitForMaxRadix\n    val uradix = radix.toULong()\n    var result = 0uL\n    for (i in start until length) {\n        val
digit = digitOf(this[i], radix)\n        if (digit < 0) return null\n        if (result > limitBeforeMul) {\n            if
(limitBeforeMul == limitForMaxRadix) {\n                limitBeforeMul = limit / uradix\n                if (result >
limitBeforeMul) {\n                    return null\n                }\n            } else {\n                return null\n            }\n
        }\n        result *= uradix\n        val beforeAdding = result\n        result += digit.toUInt()\n        if (result <
beforeAdding) return null // overflow has happened\n    }\n    return result\n}\n\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n\n@file:Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\npackage kotlin\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * Marks the API that is dependent on the experimental unsigned
types, including those types themselves.\n * \n * Usages of such API will be reported as warnings unless an explicit
opt-in with\n * the [OptIn] annotation, e.g. `@OptIn(ExperimentalUnsignedTypes::class)`,\n * or with the
`-opt-in=kotlin.ExperimentalUnsignedTypes` compiler option is given.\n * \n * It's recommended to propagate the
experimental status to the API that depends on unsigned types by annotating it with this annotation.\n
*\n\n@RequiresOptIn(level = RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Target(CLASS,
ANNOTATION_CLASS, PROPERTY, FIELD, LOCAL_VARIABLE, VALUE_PARAMETER,
CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER,
TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalUnsignedTypes\n"/*\n

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is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MathKt")\n\npackage
kotlin.math\n\n// constants, can't use them from nativeMath as they are not constants there\n\n/** Ratio of the
circumference of a circle to its diameter, approximately 3.14159. *\n@SinceKotlin("1.2")\npublic const val PI:
Double = 3.141592653589793\n\n/** Base of the natural logarithms, approximately 2.71828.
*\n@SinceKotlin("1.2")\npublic const val E: Double = 2.718281828459045\n\n// region =====
Double Math =====\n\n/** Computes the sine of the angle [x]
given in radians.\n * \n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\npublic
expect fun sin(x: Double): Double\n\n/** Computes the cosine of the angle [x] given in radians.\n * \n * Special
cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\npublic expect fun cos(x: Double):
Double\n\n/** Computes the tangent of the angle [x] given in radians.\n * \n * Special cases:\n * - `tan(NaN|+Inf|-
Inf)` is `NaN`\n *\n@SinceKotlin("1.2")\npublic expect fun tan(x: Double): Double\n\n/** Computes the arc
sine of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * \n * Special
cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n *\n@SinceKotlin("1.2")\npublic expect fun
asin(x: Double): Double\n\n/** Computes the arc cosine of the value [x];\n * the returned value is an angle in
the range from `0.0` to `PI` radians.\n * \n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is
`NaN`\n *\n@SinceKotlin("1.2")\npublic expect fun acos(x: Double): Double\n\n/** Computes the arc tangent
of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * \n * Special
cases:\n * - `atan(NaN)` is `NaN`\n *\n@SinceKotlin("1.2")\npublic expect fun atan(x: Double): Double\n\n/**
Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x,
y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to
`PI` radians.\n * \n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI`
for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y <
+Inf` and `-0.0` for `-Inf < y < 0`\n * - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n * -
`atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n * - `atan2(+Inf, x)` is `PI/2` for finite `x`\n * -
`atan2(-Inf, x)` is `-PI/2` for finite `x`\n * - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n
*\n@SinceKotlin("1.2")\npublic expect fun atan2(y: Double, x: Double): Double\n\n/** Computes the
hyperbolic sine of the value [x].\n * \n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is `+Inf`\n *
- `sinh(-Inf)` is `-Inf`\n *\n@SinceKotlin("1.2")\npublic expect fun sinh(x: Double): Double\n\n/** Computes
the hyperbolic cosine of the value [x].\n * \n * Special cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is
`+Inf`\n *\n@SinceKotlin("1.2")\npublic expect fun cosh(x: Double): Double\n\n/** Computes the hyperbolic
tangent of the value [x].\n * \n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is `1.0`\n * - `tanh(-
Inf)` is `-1.0`\n *\n@SinceKotlin("1.2")\npublic expect fun tanh(x: Double): Double\n\n/** Computes the
inverse hyperbolic sine of the value [x].\n * \n * The returned value is `y` such that `sinh(y) == x`.\n * \n * Special
cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is `+Inf`\n * - `asinh(-Inf)` is `-Inf`\n
*\n@SinceKotlin("1.2")\npublic expect fun asinh(x: Double): Double\n\n/** Computes the inverse hyperbolic
cosine of the value [x].\n * \n * The returned value is positive `y` such that `cosh(y) == x`.\n * \n * Special cases:\n *
- `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when `x < 1`\n * - `acosh(+Inf)` is `+Inf`\n
*\n@SinceKotlin("1.2")\npublic expect fun acosh(x: Double): Double\n\n/** Computes the inverse hyperbolic
tangent of the value [x].\n * \n * The returned value is `y` such that `tanh(y) == x`.\n * \n * Special cases:\n * -
`tanh(NaN)` is `NaN`\n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n * - `tanh(1.0)` is `+Inf`\n * - `tanh(-
1.0)` is `-Inf`\n *\n@SinceKotlin("1.2")\npublic expect fun atanh(x: Double): Double\n\n/** Computes
`sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n * \n * Special cases:\n * - returns `+Inf` if any of
arguments is infinite\n * - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n
*\n@SinceKotlin("1.2")\npublic expect fun hypot(x: Double, y: Double): Double\n\n/** Computes the
positive square root of the value [x].\n * \n * Special cases:\n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n
*\n@SinceKotlin("1.2")\npublic expect fun sqrt(x: Double): Double\n\n/** Computes Euler's number `e`

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raised to the power of the value [x].  
 Special cases:  $\exp(\text{NaN})$  is  $\text{NaN}$ ,  $\exp(+\text{Inf})$  is  $+\text{Inf}$ ,  $\exp(-\text{Inf})$  is  $0.0$ .  
 SinceKotlin("1.2")\npublic expect fun exp(x: Double): Double  
 Computes  $\exp(x) - 1$ .  
 This function can be implemented to produce more precise result for [x] near zero.  
 Special cases:  $\expm1(\text{NaN})$  is  $\text{NaN}$ ,  $\expm1(+\text{Inf})$  is  $+\text{Inf}$ ,  $\expm1(-\text{Inf})$  is  $-1.0$ .  
 @see [exp] function.  
 SinceKotlin("1.2")\npublic expect fun expm1(x: Double): Double  
 Computes the logarithm of the value [x] to the given [base].  
 Special cases:  $\log(x, b)$  is  $\text{NaN}$  if either  $x$  or  $b$  are  $\text{NaN}$ ,  $\log(x, b)$  is  $\text{NaN}$  when  $x < 0$  or  $b \leq 0$  or  $b == 1.0$ ,  $\log(+\text{Inf}, +\text{Inf})$  is  $\text{NaN}$ ,  $\log(+\text{Inf}, b)$  is  $+\text{Inf}$  for  $b > 1$  and  $-\text{Inf}$  for  $b < 1$ ,  $\log(0.0, b)$  is  $-\text{Inf}$  for  $b > 1$  and  $+\text{Inf}$  for  $b < 1$ .  
 See also logarithm functions for common fixed bases: [ln], [log10] and [log2].  
 SinceKotlin("1.2")\npublic expect fun log(x: Double, base: Double): Double  
 Computes the natural logarithm (base 'E') of the value [x].  
 Special cases:  $\ln(\text{NaN})$  is  $\text{NaN}$ ,  $\ln(x)$  is  $\text{NaN}$  when  $x < 0.0$ ,  $\ln(+\text{Inf})$  is  $+\text{Inf}$ ,  $\ln(0.0)$  is  $-\text{Inf}$ .  
 SinceKotlin("1.2")\npublic expect fun ln(x: Double): Double  
 Computes the common logarithm (base 10) of the value [x].  
 @see [ln] function for special cases.  
 SinceKotlin("1.2")\npublic expect fun log10(x: Double): Double  
 Computes the binary logarithm (base 2) of the value [x].  
 @see [ln] function for special cases.  
 SinceKotlin("1.2")\npublic expect fun log2(x: Double): Double  
 Computes  $\ln(x + 1)$ .  
 This function can be implemented to produce more precise result for [x] near zero.  
 Special cases:  $\ln1p(\text{NaN})$  is  $\text{NaN}$ ,  $\ln1p(x)$  is  $\text{NaN}$  where  $x < -1.0$ ,  $\ln1p(-1.0)$  is  $-\text{Inf}$ ,  $\ln1p(+\text{Inf})$  is  $+\text{Inf}$ .  
 @see [ln] function  
 @see [expm1] function  
 SinceKotlin("1.2")\npublic expect fun ln1p(x: Double): Double  
 Rounds the given value [x] to an integer towards positive infinity.  
 @return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.  
 Special cases:  $\text{ceil}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
 SinceKotlin("1.2")\npublic expect fun ceil(x: Double): Double  
 Rounds the given value [x] to an integer towards negative infinity.  
 @return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.  
 Special cases:  $\text{floor}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
 SinceKotlin("1.2")\npublic expect fun floor(x: Double): Double  
 Rounds the given value [x] to an integer towards zero.  
 @return the value [x] having its fractional part truncated.  
 Special cases:  $\text{truncate}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
 SinceKotlin("1.2")\npublic expect fun truncate(x: Double): Double  
 Rounds the given value [x] towards the closest integer with ties rounded towards even integer.  
 Special cases:  $\text{round}(x)$  is  $x$  where  $x$  is  $\text{NaN}$  or  $+\text{Inf}$  or  $-\text{Inf}$  or already a mathematical integer.  
 SinceKotlin("1.2")\npublic expect fun round(x: Double): Double  
 Returns the absolute value of the given value [x].  
 Special cases:  $\text{abs}(\text{NaN})$  is  $\text{NaN}$ .  
 @see absoluteValue extension property for [Double].  
 SinceKotlin("1.2")\npublic expect fun abs(x: Double): Double  
 Returns the sign of the given value [x]:  $-1.0$  if the value is negative,  $0$  if the value is zero,  $1.0$  if the value is positive.  
 Special case:  $\text{sign}(\text{NaN})$  is  $\text{NaN}$ .  
 SinceKotlin("1.2")\npublic expect fun sign(x: Double): Double  
 Returns the smaller of two values.  
 If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
 SinceKotlin("1.2")\npublic expect fun min(a: Double, b: Double): Double  
 Returns the greater of two values.  
 If either value is  $\text{NaN}$ , then the result is  $\text{NaN}$ .  
 SinceKotlin("1.2")\npublic expect fun max(a: Double, b: Double): Double  
 Raises this value to the power [x].  
 Special cases:  $b.\text{pow}(0.0)$  is  $1.0$ ,  $b.\text{pow}(1.0) == b$ ,  $b.\text{pow}(\text{NaN})$  is  $\text{NaN}$ ,  $\text{NaN}.\text{pow}(x)$  is  $\text{NaN}$  for  $x != 0.0$ ,  $b.\text{pow}(\text{Inf})$  is  $\text{NaN}$  for  $\text{abs}(b) == 1.0$ ,  $b.\text{pow}(x)$  is  $\text{NaN}$  for  $b < 0$  and  $x$  is finite and not an integer.  
 SinceKotlin("1.2")\npublic expect fun Double.pow(x: Double): Double  
 Raises this value to the integer power [n].  
 See the other overload of [pow] for details.  
 SinceKotlin("1.2")\npublic expect fun Double.pow(n: Int): Double  
 Returns the absolute value of this value.  
 Special cases:  $\text{NaN}.\text{absoluteValue}$  is  $\text{NaN}$ .  
 @see abs function  
 SinceKotlin("1.2")\npublic expect val Double.absoluteValue: Double  
 Returns the sign of this value:  $-1.0$  if the value is negative,  $0$  if the value is

zero, \n \* - `1.0` if the value is positive \n \* \n \* Special case: \n \* - `NaN.sign` is `NaN` \n

\* \n @SinceKotlin("1.2") \n public expect val Double.sign: Double \n \n / \n \* \n \* Returns this value with the sign bit same as of the [sign] value. \n \* \n \* If [sign] is `NaN` the sign of the result is undefined. \n

\* \n @SinceKotlin("1.2") \n public expect fun Double.withSign(sign: Double): Double \n \n / \n \* \n \* Returns this value with the sign bit same as of the [sign] value. \n \* \n @SinceKotlin("1.2") \n public expect fun Double.withSign(sign: Int): Double \n \n / \n \* \n \* Returns the ulp (unit in the last place) of this value. \n \* \n \* An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude. \n \* \n \* Special Cases: \n \* - `NaN.ulp` is `NaN` \n \* - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf` \n \* - `0.0.ulp` is `Double.MIN\_VALUE` \n

\* \n @SinceKotlin("1.2") \n public expect val Double.ulp: Double \n \n / \n \* \n \* Returns the [Double] value nearest to this value in direction of positive infinity. \n \* \n @SinceKotlin("1.2") \n public expect fun Double.nextUp(): Double \n \n / \n \* \n \* Returns the [Double] value nearest to this value in direction of negative infinity. \n

\* \n @SinceKotlin("1.2") \n public expect fun Double.nextDown(): Double \n \n / \n \* \n \* Returns the [Double] value nearest to this value in direction from this value towards the value [to]. \n \* \n \* Special cases: \n \* - `x.nextTowards(y)` is `NaN` if either `x` or `y` are `NaN` \n \* - `x.nextTowards(x) == x` \n \* \n

\* \n @SinceKotlin("1.2") \n public expect fun Double.nextTowards(to: Double): Double \n \n / \n \* \n \* Rounds this [Double] value to the nearest integer and converts the result to [Int]. \n \* \n \* Ties are rounded towards positive infinity. \n \* \n \* Special cases: \n \* - `x.roundToInt() == Int.MAX\_VALUE` when `x > Int.MAX\_VALUE` \n \* - `x.roundToInt() == Int.MIN\_VALUE` when `x < Int.MIN\_VALUE` \n \* \n \* @throws IllegalArgumentException when this value is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun Double.roundToInt(): Int \n \n / \n \* \n \* Rounds this [Double] value to the nearest integer and converts the result to [Long]. \n \* \n \* Ties are rounded towards positive infinity. \n \* \n \* Special cases: \n \* - `x.roundToLong() == Long.MAX\_VALUE` when `x > Long.MAX\_VALUE` \n \* - `x.roundToLong() == Long.MIN\_VALUE` when `x < Long.MIN\_VALUE` \n \* \n \* @throws IllegalArgumentException when this value is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun Double.roundToLong(): Long \n \n // endregion \n \n // region ===== Float Math ===== \n \n / \n \* \n \* Computes the sine of the angle [x] given in radians. \n \* \n \* Special cases: \n \* - `sin(NaN|+Inf|-Inf)` is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun sin(x: Float): Float \n \n / \n \* \n \* Computes the cosine of the angle [x] given in radians. \n \* \n \* Special cases: \n \* - `cos(NaN|+Inf|-Inf)` is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun cos(x: Float): Float \n \n / \n \* \n \* Computes the tangent of the angle [x] given in radians. \n \* \n \* Special cases: \n \* - `tan(NaN|+Inf|-Inf)` is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun tan(x: Float): Float \n \n / \n \* \n \* Computes the arc sine of the value [x]; \n \* the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians. \n \* \n \* Special cases: \n \* - `asin(x)` is `NaN`, when  $\text{abs}(x) > 1$  or x is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun asin(x: Float): Float \n \n / \n \* \n \* Computes the arc cosine of the value [x]; \n \* the returned value is an angle in the range from  $0.0$  to  $\pi$  radians. \n \* \n \* Special cases: \n \* - `acos(x)` is `NaN`, when  $\text{abs}(x) > 1$  or x is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun acos(x: Float): Float \n \n / \n \* \n \* Computes the arc tangent of the value [x]; \n \* the returned value is an angle in the range from  $-\pi/2$  to  $\pi/2$  radians. \n \* \n \* Special cases: \n \* - `atan(NaN)` is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun atan(x: Float): Float \n \n / \n \* \n \* Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond \n \* to the rectangular coordinates `(x, y)` by computing the arc tangent of the value  $[y] / [x]$ ; \n \* the returned value is an angle in the range from  $-\pi$  to  $\pi$  radians. \n \* \n \* Special cases: \n \* - `atan2(0.0, 0.0)` is  $0.0$  \n \* - `atan2(0.0, x)` is  $0.0$  for  $x > 0$  and  $\pi$  for  $x < 0$  \n \* - `atan2(-0.0, x)` is  $-0.0$  for  $x > 0$  and  $-\pi$  for  $x < 0$  \n \* - `atan2(y, +Inf)` is  $0.0$  for  $0 < y < +Inf$  and  $-0.0$  for  $-Inf < y < 0$  \n \* - `atan2(y, -Inf)` is  $\pi$  for  $0 < y < +Inf$  and  $-\pi$  for  $-Inf < y < 0$  \n \* - `atan2(y, 0.0)` is  $\pi/2$  for  $y > 0$  and  $-\pi/2$  for  $y < 0$  \n \* - `atan2(+Inf, x)` is  $\pi/2$  for finite  $x$  \n \* - `atan2(-Inf, x)` is  $-\pi/2$  for finite  $x$  \n \* - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN` \n \* \n @SinceKotlin("1.2") \n public expect fun atan2(y: Float, x: Float): Float \n \n / \n \* \n \* Computes the hyperbolic sine of the value [x]. \n \* \n \* Special cases: \n \* - `sinh(NaN)` is `NaN` \n \* - `sinh(+Inf)` is  $+Inf$  \n \* - `sinh(-Inf)` is  $-Inf$  \n \* \n @SinceKotlin("1.2") \n public expect fun sinh(x: Float): Float \n \n / \n \* \n \* Computes the hyperbolic cosine of the value [x]. \n \* \n \* Special cases: \n \* - `cosh(NaN)` is `NaN` \n \* - `cosh(+Inf|-Inf)` is

`+Inf` \n \* \n @SinceKotlin("1.2") \n public expect fun cosh(x: Float): Float \n \n /\*\* \n \* Computes the hyperbolic tangent of the value [x]. \n \* \n \* Special cases: \n \* - `tanh(NaN)` is `NaN` \n \* - `tanh(+Inf)` is `1.0` \n \* - `tanh(-Inf)` is `-1.0` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun tanh(x: Float): Float \n \n /\*\* \n \* Computes the inverse hyperbolic sine of the value [x]. \n \* \n \* The returned value is `y` such that `sinh(y) == x`. \n \* \n \* Special cases: \n \* - `asinh(NaN)` is `NaN` \n \* - `asinh(+Inf)` is `+Inf` \n \* - `asinh(-Inf)` is `-Inf` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun asinh(x: Float): Float \n \n /\*\* \n \* Computes the inverse hyperbolic cosine of the value [x]. \n \* \n \* The returned value is positive `y` such that `cosh(y) == x`. \n \* \n \* Special cases: \n \* - `acosh(NaN)` is `NaN` \n \* - `acosh(x)` is `NaN` when `x < 1` \n \* - `acosh(+Inf)` is `+Inf` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun acosh(x: Float): Float \n \n /\*\* \n \* Computes the inverse hyperbolic tangent of the value [x]. \n \* \n \* The returned value is `y` such that `tanh(y) == x`. \n \* \n \* Special cases: \n \* - `tanh(NaN)` is `NaN` \n \* - `tanh(x)` is `NaN` when `x > 1` or `x < -1` \n \* - `tanh(1.0)` is `+Inf` \n \* - `tanh(-1.0)` is `-Inf` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun atanh(x: Float): Float \n \n /\*\* \n \* Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow. \n \* \n \* Special cases: \n \* - returns `+Inf` if any of arguments is infinite \n \* - returns `NaN` if any of arguments is `NaN` and the other is not infinite \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun hypot(x: Float, y: Float): Float \n \n /\*\* \n \* Computes the positive square root of the value [x]. \n \* \n \* Special cases: \n \* - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun sqrt(x: Float): Float \n \n /\*\* \n \* Computes Euler's number `e` raised to the power of the value [x]. \n \* \n \* Special cases: \n \* - `exp(NaN)` is `NaN` \n \* - `exp(+Inf)` is `+Inf` \n \* - `exp(-Inf)` is `0.0` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun exp(x: Float): Float \n \n /\*\* \n \* Computes `exp(x)` - `1`. \n \* \n \* This function can be implemented to produce more precise result for [x] near zero. \n \* \n \* Special cases: \n \* - `expm1(NaN)` is `NaN` \n \* - `expm1(+Inf)` is `+Inf` \n \* - `expm1(-Inf)` is `-1.0` \n \* \n \* @see [exp] function. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun expm1(x: Float): Float \n \n /\*\* \n \* Computes the logarithm of the value [x] to the given [base]. \n \* \n \* Special cases: \n \* - `log(x, b)` is `NaN` if either `x` or `b` are `NaN` \n \* - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0` \n \* - `log(+Inf, +Inf)` is `NaN` \n \* - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1` \n \* - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1` \n \* \n \* See also logarithm functions for common fixed bases: [ln], [log10] and [log2]. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun log(x: Float, base: Float): Float \n \n /\*\* \n \* Computes the natural logarithm (base 'E') of the value [x]. \n \* \n \* Special cases: \n \* - `ln(NaN)` is `NaN` \n \* - `ln(x)` is `NaN` when `x < 0.0` \n \* - `ln(+Inf)` is `+Inf` \n \* - `ln(0.0)` is `-Inf` \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun ln(x: Float): Float \n \n /\*\* \n \* Computes the common logarithm (base 10) of the value [x]. \n \* \n \* @see [ln] function for special cases. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun log10(x: Float): Float \n \n /\*\* \n \* Computes the binary logarithm (base 2) of the value [x]. \n \* \n \* @see [ln] function for special cases. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun log2(x: Float): Float \n \n /\*\* \n \* Computes `ln(a + 1)`. \n \* \n \* This function can be implemented to produce more precise result for [x] near zero. \n \* \n \* Special cases: \n \* - `ln1p(NaN)` is `NaN` \n \* - `ln1p(x)` is `NaN` where `x < -1.0` \n \* - `ln1p(-1.0)` is `-Inf` \n \* - `ln1p(+Inf)` is `+Inf` \n \* \n \* @see [ln] function \n \* @see [expm1] function \n \* \n @SinceKotlin("1.2") \n public expect fun ln1p(x: Float): Float \n \n /\*\* \n \* Rounds the given value [x] to an integer towards positive infinity. \n \* \n \* @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer. \n \* \n \* Special cases: \n \* - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun ceil(x: Float): Float \n \n /\*\* \n \* Rounds the given value [x] to an integer towards negative infinity. \n \* \n \* @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer. \n \* \n \* Special cases: \n \* - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun floor(x: Float): Float \n \n /\*\* \n \* Rounds the given value [x] to an integer towards zero. \n \* \n \* @return the value [x] having its fractional part truncated. \n \* \n \* Special cases: \n \* - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \n \* \n \* \n @SinceKotlin("1.2") \n public expect fun truncate(x: Float): Float \n \n /\*\* \n \* Rounds the given value [x] towards the closest integer with ties rounded towards even integer. \n \* \n \* Special cases: \n \* - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer. \n \* \n \* \n @SinceKotlin("1.2") \n public expect

fun round(x: Float): Float\n\n/\*\*\n \* Returns the absolute value of the given value [x].\n \*\n \* Special cases:\n \* - `abs(NaN)` is `NaN`\n \*\n \* @see absoluteValue extension property for [Float]\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun abs(x: Float): Float\n\n/\*\*\n \* Returns the sign of the given value [x]:\n \* - `-1.0` if the value is negative,\n \* - zero if the value is zero,\n \* - `1.0` if the value is positive\n \*\n \* Special case:\n \* - `sign(NaN)` is `NaN`\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun sign(x: Float): Float\n\n/\*\*\n \* Returns the smaller of two values.\n \*\n \* If either value is `NaN`, then the result is `NaN`.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun min(a: Float, b: Float): Float\n\n/\*\*\n \* Returns the greater of two values.\n \*\n \* If either value is `NaN`, then the result is `NaN`.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun max(a: Float, b: Float): Float\n\n/\*\*\n \* Raises this value to the power [x].\n \*\n \* Special cases:\n \* - `b.pow(0.0)` is `1.0`\n \* - `b.pow(1.0) == b`\n \* - `b.pow(NaN)` is `NaN`\n \* - `NaN.pow(x)` is `NaN` for `x != 0.0`\n \* - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n \* - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun Float.pow(x: Float): Float\n\n/\*\*\n \* Raises this value to the integer power [n].\n \*\n \* See the other overload of [pow] for details.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun Float.pow(n: Int): Float\n\n/\*\*\n \* Returns the absolute value of this value.\n \*\n \* Special cases:\n \* - `NaN.absoluteValue` is `NaN`\n \*\n \* @see abs function\n \*/\n\n@SinceKotlin("1.2")\npublic expect val Float.absoluteValue: Float\n\n/\*\*\n \* Returns the sign of this value:\n \* - `-1.0` if the value is negative,\n \* - zero if the value is zero,\n \* - `1.0` if the value is positive\n \*\n \* Special case:\n \* - `NaN.sign` is `NaN`\n \*/\n\n@SinceKotlin("1.2")\npublic expect val Float.sign: Float\n\n/\*\*\n \* Returns this value with the sign bit same as of the [sign] value.\n \*\n \* If [sign] is `NaN` the sign of the result is undefined.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Float): Float\n\n/\*\*\n \* Returns this value with the sign bit same as of the [sign] value.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Int): Float\n\n/\*\*\n \* Rounds this [Float] value to the nearest integer and converts the result to [Int].\n \*\n \* Ties are rounded towards positive infinity.\n \*\n \* Special cases:\n \* - `x.roundToInt() == Int.MAX\_VALUE` when `x > Int.MAX\_VALUE`\n \* - `x.roundToInt() == Int.MIN\_VALUE` when `x < Int.MIN\_VALUE`\n \*\n \* @throws IllegalArgumentException when this value is `NaN`\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun Float.roundToInt(): Int\n\n/\*\*\n \* Rounds this [Float] value to the nearest integer and converts the result to [Long].\n \*\n \* Ties are rounded towards positive infinity.\n \*\n \* Special cases:\n \* - `x.roundToLong() == Long.MAX\_VALUE` when `x > Long.MAX\_VALUE`\n \* - `x.roundToLong() == Long.MIN\_VALUE` when `x < Long.MIN\_VALUE`\n \*\n \* @throws IllegalArgumentException when this value is `NaN`\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun Float.roundToLong(): Long\n\n/\*\*\n \* Returns the absolute value of the given value [n].\n \*\n \* Special cases:\n \* - `abs(Int.MIN\_VALUE)` is `Int.MIN\_VALUE` due to an overflow\n \*\n \* @see absoluteValue extension property for [Int]\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun abs(n: Int): Int\n\n/\*\*\n \* Returns the smaller of two values.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun min(a: Int, b: Int): Int\n\n/\*\*\n \* Returns the greater of two values.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun max(a: Int, b: Int): Int\n\n/\*\*\n \* Returns the absolute value of this value.\n \*\n \* Special cases:\n \* - `Int.MIN\_VALUE.absoluteValue` is `Int.MIN\_VALUE` due to an overflow\n \*\n \* @see abs function\n \*/\n\n@SinceKotlin("1.2")\npublic expect val Int.absoluteValue: Int\n\n/\*\*\n \* Returns the sign of this value:\n \* - `-1` if the value is negative,\n \* - `0` if the value is zero,\n \* - `1` if the value is positive\n \*/\n\n@SinceKotlin("1.2")\npublic expect val Int.sign: Int\n\n/\*\*\n \* Returns the absolute value of the given value [n].\n \*\n \* Special cases:\n \* - `abs(Long.MIN\_VALUE)` is `Long.MIN\_VALUE` due to an overflow\n \*\n \* @see absoluteValue extension property for [Long]\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun abs(n: Long): Long\n\n/\*\*\n \* Returns the smaller of two values.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun min(a: Long, b: Long): Long\n\n/\*\*\n \* Returns the greater of two values.\n \*/\n\n@SinceKotlin("1.2")\npublic expect fun max(a: Long, b: Long): Long\n\n/\*\*\n \* Returns the absolute value of this value.\n \*\n \* Special cases:\n \* - `Long.MIN\_VALUE.absoluteValue` is `Long.MIN\_VALUE` due to an overflow\n \*\n \* @see abs function\n \*/\n\n@SinceKotlin("1.2")\npublic expect val Long.absoluteValue: Long\n\n/\*\*\n \* Returns the sign of this value:\n \* - `-1` if the value is negative,\n \* - `0` if the value is zero,\n \* - `1` if the value is positive\n \*/

\*\n@SinceKotlin("\n1.2")\npublic expect val Long.sign: Int\n\n\n//

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,EAShC,UACa,QAAS,IAAT,wBAAqC,Y;IAC1C,OAAO,MAAM,OAAO,QAAQ,kB;GADvB,CADb,aAIe,QAAS,I  
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AFD,aAGC,EAHD,cAIE,EAJF,SAKH,EALG,iBAMK,EANL,C;;IASIB,OAAO,KAAK,M;G;EChDhB,MAAM,QA  
AS,GAAE,a;IACb,OAAoB,CAAZ,CAAE,GAAE,KAAQ,KAAg,EAAG,IAAG,E;G;EAGjC,MAAM,OAAQ,GAA  
E,a;IACZ,OAAkB,CAAV,CAAE,GAAE,GAAM,KAAg,EAAG,IAAG,E;G;EAG/B,MAAM,OAAQ,GAAE,a;IAC  
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,YAAW,MAAM,KAAM,GAAE,CAAC,MAAM,EAAT,GAAC,MAAM,YAAY,CAAC,CAAD,C;G;EAGpE,MAA  
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BAAO,M;;QAqxBP,yB;O;KAFJ,C;gFAkBA,yB;MARxBA,gD;MAAA,gE;MAqxBA,gD;QAeW,sB;;UANxBS,Q;U  
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J,C;;UAEX,qBAAO,M;;QA+wBP,yB;O;KAFJ,C;gFAkBA,yB;MA/wBA,gD;MAAA,gE;MAAA,oC;MAAA,gC;M  
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,QJyoDf,CAAS,CAAT,C;UACR,IAAI,2BAAW,CAAX,KAAJ,C;YACl,UAAU,C;YACV,WAAW,C;;QAED,QAA  
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G;K;IAGX,iC;MAOI,eAAe,oB;MACf,IAAI,CAAC,QAAS,UAAAd,C;QAAyB,OAAO,I;MACHc,UAAU,QAAS,O;  
MACnB,OAAO,QAAS,UAAhB,C;QACI,QAAQ,QAAS,O;QACjB,IAAI,sBAAM,CAAN,KA AJ,C;UAAa,MAAM,  
C;;MAEvB,OAAO,G;K;IAGX,2C;MAGI,OAAO,4BAAc,UAAAd,C;K;IAGX,iD;MAOI,eAAe,oB;MACf,IAAI,CAA  
C,QAAS,UAAAd,C;QAAyB,OAAO,I;MACHc,UAAU,QAAS,O;MACnB,OAAO,QAAS,UAAhB,C;QACI,QAAQ,Q  
AAS,O;QACjB,IAAI,UAAW,SAAQ,GAAR,EAAa,CAAb,CAAX,GAA6B,CAAjC,C;UAAoC,MAAM,C;;MAE9C,  
OAAO,G;K;IAGX,4B;MAQI,OAAO,CAAC,oBAAW,U;K;+EAGvB,gC;MAQoB,Q;MAAA,2B;MAAhB,OAAgB,  
cAAhB,C;QAAgB,yB;QAAM,IAAI,UAAU,OAAV,CAAJ,C;UAAwB,OAAO,K;;MACrD,OAAO,I;K;IAUI,uC;M  
AAA,qB;QACP,eAAO,EAAP,C;QAAA,OACA,E;O;K;IATR,sC;MAOI,OAAO,kBAAI,qBAAJ,C;K;IAeW,8C;MA  
AA,iC;QACd,eAAO,KAAP,EAAC,OAAd,C;QAAA,OACA,O;O;K;IAXR,6C;MASI,OAAO,wBAAW,4BAAX,C;K  
;kFAMX,yB;MAAA,4F;MAAA,uC;QAEI,eAAe,SAAK,W;QACpB,IAAI,CAAC,QAAS,UAAAd,C;UAAyB,MAAM  
,mCAA8B,kCAA9B,C;QAC/B,kBAAqB,QAAS,O;QAC9B,OAAO,QAAS,UAAhB,C;UACI,cAAc,UAAU,WAAV,  
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nB,EAAmB,oBAAnB,QAAV,EAAuC,WAAvC,EAAoD,QAAS,OAA7D,C;;QAEIB,OAAO,W;O;KATBX,C;4GAY  
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B,OAAO,I;QAChC,YAAy,C;QACZ,kBAAqB,QAAS,O;QAC9B,OAAO,QAAS,UAAhB,C;UACI,cAAc,UAAU,o  
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AtBX,C;8FAyBA,gC;MAGBI,eAAe,SAAK,W;MACpB,IAAI,CAAC,QAAS,UAAAd,C;QAAyB,OAAO,I;MACHc,k  
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EIB,OAAO,W;K;IAoBS,2I;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,8C;MAAA,gD;MAAA,kD;MAAA,wB;MA  
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J,W;;;K;IAPgB,wF;MAAA,yD;uBAAA,+H;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAjBpB,sD;MAiBLOA  
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F,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;iFAGX,+B;MA  
YoB,Q;MADhB,UAAoB,C;MACJ,2B;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;M  
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W06DA,sC;QAaoB,Q;QADhB,UX36DqC,eAAW,oBW26D/B,CX36D+B,CAAX,C;QW46DrB,2B;QAAhB,OAAg  
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,IAAjB,EAAuB,IAAvB,EAA6B,cAA7B,EAA2D,IAA3D,CAAiE,EAAI,SAAJ,C;K;IAYpC,4B;MAAY,cAAM,EA  
AN,C;K;IATpD,kC;MASI,OAAO,oBAAgB,SAAhB,EAAcB,KAAtB,EAA6B,UAA7B,C;K;IAGX,6C;MAUI,OAA  
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mB,kBAAR,iB;QAAQ,sB;;UtCg5BD,Q;UAAA,OAAQ,SAAR,wBAAQ,CAAR,W;UAAAd,OAAc,cAAAd,C;YAAc,uB;YACV,IsCj5ByB,UnCjcM,cHk1CjB,YAAK,KAAL,CGl1CiB,CmCicN,CtC5BzB,C;cACI,qBAAO,K;cAAP,uB;;UAGR,qBAAO,E;;;QsCr5BP,yB;O;KAPJ,C;+FAUA,yB;MAAA,sC;MtCq5BA,0D;MAAA,+C;MmBp1CA,+B;MmB+bA,yBAO+B,yB;QnBtc/B,+B;emBsc+B,6B;UAAA,qB;YAAE,yBnB5bS,emB4bC,EnB5bD,CmB4bT,C;W;S;OAAF,C;MAP/B,uC;QAOMB,kBAAR,iB;QAAQ,sB;;UtCk5BD,Q;UAAA,OAAQ,SAAR,wBAAQ,CAAR,W;UAAAd,OAAc,cAAAd,C;YAAc,uB;YACV,IsCn5ByB,UnB5bS,enB+0CpB,YAAK,KAAL,CmB/0CoB,CmB4bT,CtCm5BzB,C;cACI,qBAAO,K;cAAP,uB;;UAGR,qBAAO,E;;;QsCv5BP,yB;O;KAPJ,C;+FAUA,yB;MAAA,sC;MtCu2BA,0D;MAAA,+C;ME72CA,+B;MoCsgBA,yBAO+B,yB;QpC7gB/B,+B;eoC6gB+B,6B;UAAA,qB;YAAE,yBpCngBS,eoCmgBC,EpCngBD,CoCmgBT,C;W;S;OAAF,C;MAP/B,uC;QAOMB,kBAAR,iB;QAAQ,sB;;UtCo2BD,Q;UAAA,OAAQ,SAAR,wBAAQ,CAAR,W;UAAAd,OAAc,cAAAd,C;YAAc,uB;YACV,IsCr2ByB,UpCngBS,eFw2CpB,YAAK,KAAL,CEX2CoB,CoCmgBT,CtCq2BzB,C;cACI,qBAAO,K;cAAP,uB;;UAGR,qBAAO,E;;;QsCz2BP,yB;O;KAPJ,C;+FAUA,yB;MAAA,sC;MtCy2BA,0D;MAAA,+C;MI52CA,iC;MkCmgBA,yBAO+B,yB;QIC1gB/B,iC;ekC0gB+B,6B;UAAA,qB;YAAE,yBlChgBY,gBkCggBF,ElChgBE,CkCggBZ,C;W;S;OAAF,C;MAP/B,uC;QAOMB,kBAAR,iB;QAAQ,sB;;UtCs2BD,Q;UAAA,OAAQ,SAAR,wBAAQ,CAAR,W;UAAAd,OAAc,cAAAd,C;YAAc,uB;YACV,IsCv2ByB,UlChgBY,gBJu2CvB,YAAK,KAAL,Civ2CuB,CkCggBZ,CtCu2BzB,C;cACI,qBAAO,K;cAAP,uB;;UAGR,qBAAO,E;;;QsC32BP,yB;O;KAPJ,C;+FAUA,yB;MAAA,4C;MnC5eA,6B;MmC4eA,4B;QAWI,OnC7emC,cmC6epB,KAAR,iBAAQ,CnC7eoB,C;O;KmCkevC,C;+FAUA,yB;MAAA,4C;MnB3eA,+B;MmB2eA,4B;QAWI,OnB5esC,emB4evB,KAAR,iBAAQ,CnB5euB,C;O;KmBie1C,C;+FAUA,yB;MAAA,4C;MpCtjBA,+B;MoCsjBA,4B;QAWI,OpCvjBsC,eoCujBvB,KAAR,iBAAQ,CpCvjBuB,C;O;KoC4iB1C,C;+FAUA,yB;MAAA,4C;MICvjBA,iC;MkCujBA,4B;QAWI,OICxjByC,gBkCwjB1B,KAAR,iBAAQ,CICxjB0B,C;O;KkC6iB7C,C;+FAUA,yB;MAAA,+C;MAAA,iE;MA83FI,0D;MA93FJ,uC;QAWkB,Q;QAAA,OAAa,SAm3FX,YAn3FF,SAm3FN,QAAQ,CAn3FW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,MAAM,gCAAuB,mDAAvB,C;O;KafV,C;+FAUA,yB;MAAA,+C;MAAA,iE;MAo3FI,0D;MAp3FJ,uC;QAWkB,Q;QAAA,OAAa,SAy2FX,YAz2FF,SAy2FN,QAAQ,CAz2FW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,MAAM,gCAAuB,mDAAvB,C;O;KafV,C;+FAUA,yB;MAAA,+C;MAAA,iE;MAg2FI,0D;MAh2FJ,uC;QAWkB,Q;QAAA,OAAa,SAq1FX,YAr1FF,SAq1FN,QAAQ,CAr1FW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,MAAM,gCAAuB,mDAAvB,C;O;KafV,C;+FAUA,yB;MAAA,0D;MAAA,qC;QAOI,OAAe,YAAR,iBAAQ,EAAY,OnC9sBM,KmC8sBIB,C;O;KAPnB,C;+FAUA,yB;MAAA,0D;MAAA,qC;QAOI,OAAe,YAAR,iBAAQ,EAAY,OpC1wBQ,KoC0wBpB,C;O;KAPnB,C;+FAUA,yB;MAAA,0D;MAAA,qC;QAOI,OAAe,YAAR,iBAAQ,EAAY,OICzwBU,KkCywBtB,C;O;KAPnB,C;IAUA,kC;MAQI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;K;IAGpC,kC;MAQI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;K;IAGpC,kC;MAQI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;K;IAGpC,kC;MAQI,OAAW,mBAAJ,GAAe,IAAf,GAAyB,sBAAK,iBAAO,CAAP,IAAL,C;K;6FAGpC,yB;MAAA,+C;MAkuFI,0D;MALuFJ,uC;QASkB,Q;QAAA,OAAa,SAytFX,YAzFF,SAytFN,QAAQ,CAztFW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,OAAO,I;O;KAbX,C;6FAGBA,yB;MAAA,+C;MA0tFI,0D;MA1tFJ,uC;QASkB,Q;QAAA,OAAa,SAitFX,YAjtFF,SAitFN,QAAQ,CAjtFW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,OAAO,I;O;KAbX,C;6FAGBA,yB;MAAA,+C;MAktFI,0D;MAItFJ,uC;QASkB,Q;QAAA,OAAa,SAysFX,YAzsFF,SAysFN,QAAQ,CAzsFW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,OAAO,I;O;KAbX,C;6FAGBA,yB;MAAA,+C;MA0sFI,0D;MA1sFJ,uC;QASkB,Q;QAAA,OAAa,SAisFX,YAjsFF,SAisFN,QAAQ,CAjsFW,CAAb,W;QAAAd,OAAc,cAAAd,C;UAAc,uB;UACV,cAAc,sBAAK,KAAL,C;UACd,IAAI,UAAU,OAAV,CAAJ,C;YAAwB,OAAO,O;;QAEEnC,OAAO,I;O;KAbX,C;qF





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B,C;UAGB,yB;UACZ,MnCvWsiD,SmCuWsjD,GnCvWszD,KAAK,GmCuWszD,SAAS,OAAT,CnCvWsoE,KAA  
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;QACA,2B;QAaHb,OAAGB,cAAhB,C;UAGB,yB;UACZ,MnCvXsiD,SmCuXsjD,GnCvXszD,KAAK,GmCuXsz  
D,SAAS,OAAT,CnCvXsoE,KAAK,IAAf,C;;QmCyxSrD,OAAG,G;O;KAbX,C;mFAGBA,yB;MAAA,wB;MAAA,s  
C;QAuOB,Q;QADhB,UAGB,W;QACA,2B;QAaHb,OAAGB,cAAhB,C;UAGB,yB;UACZ,MnCvYsiD,SmCuYsj  
D,GnCvYszD,KAAK,GmCuYszD,SAAS,OAAT,CnCvYsoE,KAAK,IAAf,C;;QmCyySrD,OAAG,G;O;KAbX,C;m  
FAGBA,yB;MAAA,wB;MAAA,sC;QAuOB,Q;QADhB,UAGB,W;QACA,2B;QAaHb,OAAGB,cAAhB,C;UAGB  
,yB;UACZ,MnCvZsiD,SmCuZsjD,GnCvZszD,KAAK,GmCuZszD,SAAS,OAAT,CnCvZsoE,KAAK,IAAf,C;;QmC  
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CF,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;+FAGX,+B;  
MAUoB,Q;MADhB,UAAkB,G;MACF,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,  
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B,yB;QACZ,OAAO,SAAS,OAAT,C;;MAEX,OAAO,G;K;kFAGX,+B;MAYoB,Q;MADhB,UAAoB,C;MACJ,2B;  
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B,Q;MADhB,UAAoB,C;MACJ,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,OAAO,SAAS,OAAT,C;;MAE  
X,OAAO,G;K;mFAGX,+B;MAYoB,Q;MADhB,UAAoB,C;MACJ,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;Q  
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ADhB,UAAe,C;MACC,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MAEJ,  
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;MADhB,UAAe,C;MACC,2B;MAAhB,OAAGB,cAAhB,C;QAAgB,yB;QACZ,YAAO,SAAS,OAAT,CAAP,I;;MA  
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Af,C;;QmC6pTrD,OAAO,G;O;KAhBX,C;mFamBA,yB;MnBr2SA,+B;MmBq2SA,sC;QAaoB,Q;QADhB,UnBt2S  
qC,eAAW,oBmBs2S/B,CnBt2S+B,CAAX,C;QmBu2SrB,2B;QAAhB,OAAGB,cAAhB,C;UAAgB,yB;UACZ,MnB  
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DO,I;K;IA3DX,kC;MAyEI,WpBz5TO,MAAO,KoBy5TG,cpBz5TH,EoBy1TH,KAgEkB,KpBz5Tf,C;MoB05Td,W  
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kB,IAAIB,M;UACI,IAAK,WAAI,UAAU,sBAAK,CAAL,CAAV,EAAMb,kBAAM,CAAN,CAAnB,CAAJ,C;;QAE  
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IB,M;UACI,IAAK,WAAI,UAAU,sBAAK,CAAL,CAAV,EAAMb,kBAAM,CAAN,CAAnB,CAAJ,C;;QAET,OAA  
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QAAA,OAAwB,mBAAM,iBAAN,EAAM,yBAAN,O;;QAAoB,MAAM,2BAAYB,UAAF,WAAvB,C;K;;IAJnF,qC;  
MACyD,oD;K;IAON,wD;MAAA,kC;MAAS,uB;MACxD,aAAY,C;K;wDACZ,Y;MAAYB,oBAAQ,kBAAM,O;K;  
yDACvC,Y;MAAwD,Q;MAA9B,IAAI,aAAQ,kBAAM,OAAIB,C;QAAA,OAAwB,mBAAM,iBAAN,EAAM,yBA  
AN,O;;QAAoB,MAAM,2BAAYB,UAAF,WAAvB,C;K;;IAJhF,kC;MACmD,iD;K;IAOE,yD;MAAA,kC;MAAS,w  
B;MAC1D,aAAY,C;K;yDACZ,Y;MAAYB,oBAAQ,kBAAM,O;K;2DACvC,Y;MAAYD,Q;MAA9B,IAAI,aAAQ,k  
BAAM,OAAIB,C;QAAA,OAAwB,mBAAM,iBAAN,EAAM,yBAAN,O;;QAAoB,MAAM,2BAAYB,UAAF,WAA  
vB,C;K;;IAJf,mC;MACqD,kD;K;IAOF,wD;MAAA,kC;MAAS,uB;MACxD,aAAY,C;K;wDACZ,Y;MAAYB,oBA  
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AAN,EAAM,yBAAN,O;;QAAoB,MAAM,2BAAYB,UAAF,WAAvB,C;K;;IAJhF,kC;MACmD,iD;K;IAOF,uD;MA  
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B,IAAI,aAAQ,kBAAM,OAAIB,C;QAAA,OAAwB,mBAAM,iBAAN,EAAM,yBAAN,O;;QAAoB,MAAM,2BAAY  
B,UAAF,WAAvB,C;K;;IAJ/E,iC;MACiD,gD;K;IAOI,yD;MAAA,kC;MAAS,wB;MAC1D,aAAY,C;K;yDACZ,Y;  
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;QAAA,OAAwB,mBAAM,iBAAN,EAAM,yBAAN,O;;QAAoB,MAAM,2BAAyB,UAAF,WAAvB,C;K;;IAJhF,kC  
;MACmD,iD;K;IAOpB,gC;MAAC,wB;K;;IAEhC,+B;MAC8C,MAAM,mC;K;IAEpD,8C;MAEI,IAAI,qBAAJ,C;Q  
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C,QAAIC,C;;K;IAI7B,2C;MAEI,IAAI,KAAy,kBAAhB,C;QAGI,KAAy,mBAAkB,QAAIB,C;;QAEH,QAAT,SA  
A+C,CAAIB,IAAjC,KAAiC,EAAkB,O;;K;IAIvD,sC;MAGwB,Q;MADpB,gBAAgB,IAAhB,KAAgB,E;MACI,IA  
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;;QAEzC,c;;MAHJ,wB;MAKA,kBAAkB,K;MACIB,iBAAiB,W;MACjB,OAAO,S;K;IAIa,sB;MAAC,U;K;iCACrB  
,iB;MACI,OAAO,mCAAsB,WAAK,KAAM,E;K;mCAG5C,Y;MACI,OAAO,M;K;mCAGX,Y;MACI,OAAuC,oB  
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AL,C;QACV,IAAI,oBAAJ,C;UACI,MAAM,CAAN,IAAW,EAAS,MAAM,MAAK,GAAL,C;;UAE1B,MAAM,CA  
AN,IAAW,G;;MAGnB,OAAO,EAAS,OAAO,OAAM,EAAN,EAAGB,KAAhB,C;K;IAG3B,2B;MAMW,WAAO,S  
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AL,C;;YAE1B,MAAM,CAAN,IAAW,G;;QA4Bf,OAZBG,EAAS,OAAO,OAAM,EAAN,EAAGB,KAAhB,C;;QA2  
BnB,WAAW,C;QACX,OBAAU,IAAV,e;UACY,IAAoB,I;UAA5B,eAAQ,QAAoB,OAAPB,IAAQ,CAAH,GAAG,  
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,KAAkB,SAAtB,C;UF4F4B,ME3FxB,UF2FqB,CE3FF,O;;QF4FnB,OAAO,C;QACP,OBAAU,IAAV,e;UAE0B,YA  
CX,M;UAFX,YAAU,IAAQ,CAAH,GAAG,C;UACI,SAAJ,KAAI,O;UAAtB,aAAU,CAAV,kB;YACI,OAAO,aAA  
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E,MAAM,KAAiD,CAA3C,SAA2C,C;MAWrD,eAAiB,I;MAXW,OAYrB,K;K;IAVX,uB;MAC6B,WAAS,W;MAA  
T,YAAsB,IAA/C,WAA+C,CAAnC,EAAE,MAAM,KAAK,CAAC,SAAD,CAAsB,C;MAQ/C,eAAiB,I;MARQ,OA  
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,I;MALQ,OAMIB,K;K;2DAJX,uB;MAGI,eAAiB,I;MACjB,OAAO,K;K;kEG9MX,yB;MAAA,0B;MAAA,uB;QAS  
I,OAAoB,OAAb,ItD0Q+B,KAAAL,GAaiB,KsD1Q9B,C;O;KATxB,C;IClqC,2C;MAAC,8C;MACIC,eAAsB,C;MA  
CtB,wBAA+B,C;MAC/B,gBAA6B,I;MAC7B,mBAAsC,I;MACtC,qBAAyC,I;MAEzC,yBAAgD,yBAAmB,Q;MA  
EnE,sBAAgD,I;K;wFAFhD,Y;MAAA,6B;K;0CAIA,Y;MAEY,kBADr,M;MAAA,U;MAAA,2C;QAAA,e;;QAES,  
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DAIJ,kB;MACI,kBAAc,IAAd,C;MACiC,oB;MCuBrB,Q;MADR,IdtBsB,MCsBtB,W;QADJ,mBACiB,I;;QADjB,  
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Y,gB0CnCH,S;;QACD,iBAAiB,8B;QAGjB,IAAI,0BAAJ,C;UACI,qBAAc,e;;UAEd,oBAAQ,0B;UACR,wBAAy,k  
B;;;UAIZ,cAAc,oB;UACd,IAAI,YAAy,yBAAhB,C;YAAqC,M;UACrC,kBAAgB,O;UACbB,qBAAmB,I;;UAEnB  
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hB,8BDgDQ,WAAO,qBAAP,CChDR,C;YFSgB,a;;YAAA,a;UAAA,mB;YAEK,UEpBrB,oBDgDQ,WD5B+B,eC4  
B/B,CChDR,C;;UFqBgB,M;;;K;mDAMhB,Y;MACI,kBAAkB,mB;MACIB,IAAI,uBAAuB,gBAAgB,IAA3C,C;QA  
CI,uCAAQ,yCAAR,EAAmC,wCAA+B,WAA/B,C;;MAEvC,sBAAoB,mC;K;;IAM5B,iC;MAAA,qC;K;gGAEQ,Y;  
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DuE,WAA9B,C;K;;+C6CpDnD,Y;MAAkC,8C;K;;;IARiC,6C;MAAA,4C;QAAA,2B;;MAAA,qC;K;IGyDA,mG;IA  
AA,yH;IAAA,6F;MAKW,kC;MAAS,4C;K;IALpB,sEAMQ,Y;MACI,Q;MAAA,sC;QAAiB,U;;MACjB,OAAO,oB;  
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;;K;IACnG,+B;MAAA,mD;MAAuB,sBAAK,IAAL,EAAW,IAAX,C;MAAvB,Y;K;IACA,0C;MAAA,mD;MA  
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B,C;MAAxC,Y;K;IAGsC,0C;MAA0D,qBAAU,OAAV,EAAmB,KAAhB,C;;K;IACg,sC;MAAA,0D;MAAuB,6B  
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,Y;K;IACA,+C;MAAA,0D;MAAwC,6BAAK,SAAL,EAAgB,KAAhB,C;MAAxC,Y;K;IAG8C,kD;MAA0D,4BAA  
iB,OAAjB,EAA0B,KAA1B,C;;K;;IACxG,8C;MAAA,kE;MAAuB,qCAAK,IAAL,EAAW,IAAX,C;MAAvB,Y;K;I  
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,Y;K;IAI2C,wC;sCAAqE,O;;K;;IAC3G,2C;MAAA,+D;MAAuB,kCAAK,IAAL,C;MAAvB,Y;K;IAI0C,uC;8BAA  
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C,oC;MAAA,wD;MAAuB,sBAAK,IAAL,Q;MAAvB,Y;K;IACA,+C;MAAA,wD;MAAgC,2BAAK,OAAL,EAAc,I  
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Ae,wBAAjC,EAakD,SAaID,C;MACZ,OAAO,SAAS,CAAT,IAAc,aAAO,4BA Ae,wBAAf,CAA+B,KAA/B,IAAw  
C,4BA Ae,yBAAf,CAAGC,KAAhC,CAAxC,IAAP,C;K;ICXzB,qC;MACI,OAAe,IAAR,8BAAgB,IAAhB,KACY,I  
AAR,8BAAgB,IADpB,C;K;ICCX,wC;M5CiBW,Q;MAAA,I4CXgB,K5CWZ,IAAS,CAAT,I4CXY,K5CWE,IAAS,  
2BAA3B,C;QAAA,OAAc,qB4CXtB,K5CWsB,C;::Q4CXb,MAAM,8BAA0B,mCAAyB,gBAAzB,MAA1B,C;::M  
AAAtC,W;K;ICRj,sC;MAEI,WAAW,ShDkC+B,I;MgDhC1C,IAAY,GAAR,oBAAgB,GAAhB,KAAkC,GAAR,oBA  
AgB,GAA1C,CAAJ,C;QACI,OAA8B,OAAtB,KAAK,CAAC,OAAO,CAAP,IAAD,IAAa,CAAb,IAAL,KAAsB,C;::  
MAGIC,IAAY,IAAR,oBAAgB,IAAhB,KAAkC,IAAR,oBAAgB,IAA1C,CAAJ,C;QACI,OAAO,S;::MAEX,OAAO,  
wB;K;ICPX,wC;MxCqTe,WwC7SY,KxC6SZ,IAAS,C;MAAT,S;QAAC,OwC7SF,KxC6SE,IAqgHT,gBAAR,iBAA  
Q,C;::MAArgHT,U;MAAA,S;QAAA,SAAsC,sBwC7StB,KxC6SsB,C;::QwC7Sb,MAAM,8BAA0B,iCAAuB,cAAvB,  
MAA1B,C;::MAAtC,a;K;IAGJ,wC;MxCsTe,WwC9SY,KxC8SZ,IAAS,C;MAAT,S;QAAC,OwC9SF,KxC8SE,IAig  
HT,gBAAR,iBAAQ,C;::MAJgHT,U;MAAA,S;QAAA,SAAsC,sBwC9StB,KxC8SsB,C;::QwC9Sb,MAAM,8BAA0B

,iCAAuB,cAAvB,MAA1B,C;;MAAtC,a;K;IAGJ,wC;MxCuTe,WwC/SY,KxC+SZ,IAAS,C;MAAT,S;QAAc,OwC/SF,KxC+SE,IA6/GT,gBAAR,iBAAQ,C;;MA7/GT,U;MAAA,S;QAAA,SAAsC,sBwC/StB,KxC+SsB,C;;QwC/Sb,MAAM,8BAA0B,iCAAuB,cAAvB,MAA1B,C;;MAAtC,a;K;IAGJ,wC;MxCwTe,WwChTY,KxCgTZ,IAAS,C;MAAT,S;QAAc,OwChTF,KxCgTE,IAy/GT,gBAAR,iBAAQ,C;;MAz/GT,U;MAAA,S;QAAA,SAAsC,sBwChTtB,KxCgTsB,C;;QwChTb,MAAM,8BAA0B,iCAAuB,cAAvB,MAA1B,C;;MAAtC,a;K;IASO,6C;MAAA,8B;MAAS,uB;K;8FACW,Y;MAAQ,OAAA,gBAAY,K;K;+CAC3C,Y;MAAkC,OAAA,gBAAY,U;K;sDAC9C,mB;MAAgD,OAAA,gBAAY,gBAAS,OAAT,C;K;mDAC5D,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,SAAzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,OAAJ,C;QAAgC,OAAO,E;MACvC,OxCsrBO,UwCtrBA,gBxCsrBR,QAAQ,EwCtrBoB,O3EgOF,KmCsdIB,C;K;yDwCprBX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,OAAJ,C;QAAgC,OAAO,E;MACvC,OxCy6BO,cwCz6BA,gBxCy6BR,QAAQ,EwCz6BwB,O3E2NN,KmC8sBIB,C;K;;IwC/7BnB,6B;MAMI,4C;K;IA2BO,6C;MAAA,8B;MAAS,uB;K;8FACW,Y;MAAQ,OAAA,gBAAY,K;K;+CAC3C,Y;MAAkC,OAAA,gBAAY,U;K;sDAC9C,mB;MAAiD,OAAA,gBAAY,gBAAS,OAAT,C;K;mDAC7D,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,SAAzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACx C,OxCqqBO,UwCrqBA,gBxCqqBR,QAAQ,EwCrqBoB,O3DgNA,KmBqdpB,C;K;yDwCnqBX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACx C,OxCw5BO,cwCx5BA,gBxCw5BR,QAAQ,EwCx5BwB,O3D2MJ,KmB6sBpB,C;K;;IwC96BnB,6B;MAMI,4C;K;IA2BO,6C;MAAA,8B;MAAS,uB;K;8FACW,Y;MAAQ,OAAA,gBAAY,K;K;+CAC3C,Y;MAAkC,OAAA,gBAAY,U;K;sDAC9C,mB;MAAiD,OAAA,gBAAY,gBAAS,OAAT,C;K;mDAC7D,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,SAAzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACx C,OxCopBO,UwCppBA,gBxCopBR,QAAQ,EwCppBoB,O5EkIA,KoCkhBpB,C;K;yDwClpBX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,QAAJ,C;QAAiC,OAAO,E;MACx C,OxCu4BO,cwCv4BA,gBxCu4BR,QAAQ,EwCv4BwB,O5E6HJ,KoC0wBpB,C;K;;IwC75BnB,8B;MAMI,4C;K;IA2BO,6C;MAAA,8B;MAAS,uB;K;8FACW,Y;MAAQ,OAAA,gBAAY,K;K;+CAC3C,Y;MAAkC,OAAA,gBAAY,U;K;sDAC9C,mB;MAAkD,OAAA,gBAAY,gBAAS,OAAT,C;K;mDAC9D,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,SAAzB,C;MACb,OAAO,6BAAY,KAAZ,C;K;qDAEX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,SAAJ,C;QAAkC,OAAO,E;MACzC,OxCmoBO,UwCnoBA,gBxCmoBR,QAAQ,EwCnoBoB,O1EkHE,KkCihBtB,C;K;yDwCjoBX,mB;MAES,Q;MAAL,IAAI,eAAC,0EAAD,SAAJ,C;QAAkC,OAAO,E;MACzC,OxCs3BO,cwCt3BA,gBxCs3BR,QAAQ,EwCt3BwB,O1E6GF,KkCywBtB,C;K;;IwC54BnB,8B;MAMI,4C;K;ICtIJ,qC;MAII,SAAS,SID+BiC,I;MkD9B1C,OAAa,CAAN,gBAAc,EAAd,KACU,EAAN,gBAAc,EADIB,KA EI,OAAM,GAFV,KAGI,KA AK,IAAL,KACC,OAAM,IAAN,KACS,IAAN,gBAAc,IADjB,KAEG,OAAM,IAFT,IAGG,OAAM,IAHT,IAIG,OAAM,IAJT,IAKG,OAAM,IALT,IAMG,OAAM,KAPV,CAHJ,C;K;;;mCCTP,gB;;K;;ICAJ,wB;K;;IAIA,wB;K;;IAIA,wB;K;;IAKiC,uB;MAAC,oB;QAAA,OAA0B,E;MAA1B,gB;K;;IAEiC,kB;K;;IAqCqC,sB;MAAC,gB;K;;IAGCN,4B;MAAC,sB;K;;IAEjC,uB;K;;IA8DmC,4B;MAAC,kB;K;;IAEpC,oB;K;;IAmCA,+B;K;;ICvLA,oB;K;;IAIA,wB;K;;oF7DLA,qB;MAKqE,uCoCHtB,E;K;iGpCK/C,yB;MAAA,kD;MAAA,4B;QAQsE,mBAAY,SAAZ,C;O;KARtE,C;IAUA,iC;MAGI,OAAsB,UAAy,QAAvB,KAAmC,SAAY9C,GACe,UAAy,UAD3B,GAGI,gBAAgB,UAAhB,C;K;IAGR,qC;MAEI,YoC1B2C,E;MpC2B3C,eAAe,UAAW,W;MAC1B,OAAO,QAAS,UAAhB,C;QACU,KAAy,MAAK,QAAS,OAAd,C;MACtB,OAAO,K;K;IAGX,8C;MAQc,Q;MANV,IAAI,KAAM,OAAN,GAAa,UAAW,KAA5B,C;QACI,OA AO,gBAAgB,UAAhB,C;;MAEX,eAAe,UAAW,W;MAC1B,YAAy,C;MACZ,OAAO,QAAS,UAAhB,C;QACI,MAAM,YAAN,EAAM,oBAAN,UAAiB,QAAS,O;;MAE9B,IAAI,QAAQ,KAAM,OAAIB,C;QACI,MAAM,KAAN,IA Ae,I;;MAEnB,OAAO,K;K;IAIX,yB;MAG6C,sBAAY,OAAZ,E;K;wGAE7C,yB;MAAA,+D;MAAA,gC;QAI0B,gB AAF,gB;QAAqB,aJW5B,W;QIXA,OJYO,SIZoC,Q;O;KAJ/C,C;yGAOA,yB;MAAA,4E;MAAA,gE;MAAA,0C;QA II,qBAAqB,QAArB,C;QAC8B,gBAAvB,eAAa,QAAb,C;QAA6B,aJGpC,W;QIHA,OJIO,SIJ4C,Q;O;KALvD,C;IA SA,wB;MAG2C,oBAAU,OAAV,E;K;sGAE3C,yB;MAAA,uE;MAAA,gC;QAI8B,gBAAnB,oB;QAAyB,aJvHc,W; QIUA,OJTO,SISwC,Q;O;KAJnD,C;wGAOA,yB;MAAA,wE;MAAA,0C;QAI5C,gBAA3B,mBAAiB,QAAjB,C;QA AiC,aJjBxC,W;QIiBA,OJhBO,SIgBgD,Q;O;KAJ3D,C;IAQA,qB;MAIuD,oBAAU,IAAV,E;K;sGAEvD,yB;MAAA ,wE;MAAA,gC;QAIiC,gBAAtB,oB;QAA4B,aJ/BnC,W;QI+BA,OJ9BO,SI8B2C,Q;O;KAJtD,C;uGAOA,yB;MAA A,uE;MAAA,0C;QAIyC,gBAA9B,mBAAoB,QAAPB,C;QAAoC,aJtC3C,W;QISCA,OJrCO,SiQcMd,Q;O;KAJ9D, C;IAQA,mC;MAOqB,Q;MAAA,kC;MAAjB,iBAAc,CAAd,yB;QACI,sBAAK,KAAL,EAAC,KAAd,C;;K;IAIR,+B;



MAMuD,sBAAQ,4BAAR,C;K;IAEvD,6B;MAIwE,kBAAhB,0B;MAAwB,uB;MAAxB,OJJE7C,W;K;IImEX,4B;M  
AQL,gBAAGB,SAAhB,EAAsB,cAAtB,C;K;IAGJ,2C;MAQL,gBAAGB,SAAhB,EAAsB,UAAAtB,C;K;IAGJ,2C;MA  
CI,IAAI,IAAK,KAAL,IAAa,CAAjB,C;QAAoB,M;MAEpB,YAAY,YAAY,IAAZ,C;MACZ,gBAAc,KAAd,EAAq  
B,UAArB,C;MAEA,aAAU,CAAV,MAAkB,KAAM,OAAxB,M;QACI,iBAAK,CAAL,EAAU,MAAM,CAAN,CA  
AV,C;;K;IAIR,uC;MACI,OAAO,gBAAkB,IAAIB,O;K;IAGX,iF;MAII,oCAAa,2BAAkB,UAAIB,EAA8B,QAA9B  
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c,iBAAd,C;;QAExB,IAAI,WAAW,WAAx,IAA0B,qBAAqB,UAAuD,C;UACI,iBAAc,CAAd,UAAsB,SAAtB,U;Y  
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qB;MAEgF,gB;K;kGAehF,yB;MAAA,4D;MAAA,4B;QAC8E,OAAK,aAAL,SAAK,C;O;KADnF,C;sGAIA,gC;M  
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OAAO,K;K;IAGX,mC;MAEI,IAAI,QAAQ,CAAZ,C;QACI,oB;;MAEJ,OAAO,K;K;IAIX,mC;MAIqD,mB;K;IAEr  
D,wC;MPzNI,IAAI,EOgOI,YAAY,CPhOhB,CAAJ,C;QACI,cO+NqB,gC;QP9NrB,MAAM,gCAAYB,OAAQ,WA  
AjC,C;;K;IOiOd,8C;MAAoE,Y;K;I8D1PV,qC;MAAiC,6B;K;uDAlvF,mB;MACI,qB;MACA,eAAe,e;MACf,OAA  
O,QAAS,UAAhB,C;QACI,IAAI,OAAA,QAAS,OAAT,EAAMB,OAAhB,CAAJ,C;UACI,QAAS,S;UACT,OAAO,I  
;;MAGf,OAAO,K;K;yDAGX,oB;MAGoB,Q;MAFhB,qB;MACA,eAAe,K;MACC,0B;MAAhB,OAAgB,cAAhB,C  
;QAAgB,yB;QACZ,IAAI,eAAI,OAAJ,CAAJ,C;UAAkB,WAAW,I;MAEjC,OAAO,Q;K;IAKuC,sE;MAAA,qB;Q  
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AV,C;K;IAKU,sE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;4DAFpD,oB;MAEY,Q;MADR,qB;MACA,OAAoC  
,YAA5B,iEAA4B,EAAU,oDAAV,C;K;gDAGxY,C;Y;MACI,qB;MACA,eAAe,IAAK,W;MACpB,OAAO,QAAS,UA  
AhB,C;QACI,QAAS,O;QACT,QAAS,S;;K;iDAIjB,Y;MAE8B,OAAA,IAAK,U;K;yDAGnC,Y;K;;IC3CgD,+B;MA  
AiC,oC;MACjF,gBAA8B,C;K;8CAM9B,mB;MAMI,qB;MACA,iBAAl,SAAJ,EAAU,OAAV,C;MACA,OAAO,I;  
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K;MACb,cAAc,K;MACJ,0B;MAAV,OAAU,cAAV,C;QAAU,mB;QACN,kBAAl,eAAJ,EAAI,uBAAl,WAAc,CA  
Ad,C;QACA,UAAU,I;MAEd,OAAO,O;K;0CAGX,Y;MACI,qB;MACA,yBAAY,CAAZ,EAAe,SAAf,C;K;IAKiB,  
gE;MAAA,qB;QAAE,OAAm,gBAAN,mB;O;K;sDAFvB,oB;MACI,qB;MACA,OAAO,kBAAU,8CAAV,C;K;IAK  
U,gE;MAAA,qB;QAAE,QAAO,gBAAP,mB;O;K;sDAFvB,oB;MACI,qB;MACA,OAAO,kBAAU,8CAAV,C;K;6C  
AIX,Y;MAAQD,iD;K;mDAErD,mB;MAAoD,0BAAQ,OAAr,KAAoB,C;K;kDAExE,mB;MACqB,Q;MAAA,6B;  
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;sDAGX,mB;MACI,iBAAc,sBAAd,WAA+B,CAA/B,U;QACI,IAAI,wBAAl,KAAJ,GAAC,OAAd,CAAJ,C;UACI,  
OAAO,K;;MAGf,OAAO,E;K;iDAGX,Y;MAA6D,iCAAa,CAAb,C;K;yDAC7D,iB;MAAuE,sDAAlB,KAAjB,C;K  
;oDAGvE,8B;MAA4E,uCAAQ,IAAR,EAAc,SAAd,EAAyB,OAAzB,C;K;wDAE5E,8B;MAII,eAAe,0BAAa,SAAb  
,C;MACf,YAAO,UAAU,SAAV,I;MnEuDX,iBAAc,CAAd,UAAsB,KAAtB,U;QmEtDiB,e;QACA,iB;;K;2CAIjB,i  
B;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;MAC3B,IAAI,2BAAJ,C;QAAuB,OAAO,K;MAE9B,OAAO,oC  
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MAAA,oB;MACI,eACsB,C;MACtB,cAlqB,E;K;yDAErB,Y;MAAkC,sBAAQ,gB;K;sDAE1C,Y;MAEW,Q;MADP  
,IAAI,CAAC,cAAL,C;QAAgB,MAAM,6B;MACtB,eAAO,mBAAP,EAAO,2BAAP,O;MACA,OAAO,wBAAl,WA  
AJ,C;K;wDAGX,Y;MtE5CJ,IAAI,EsE6CU,gBAAQ,EtE7CIB,CAAJ,C;QACI,csE4CwB,sE;QtE3CxB,MAAM,6BA  
AsB,OAAQ,WAA9B,C;;MsE6CF,6BAAS,WAAT,C;MACA,eAAQ,W;MACR,cAAO,E;K;;IAOqB,6D;MAHpC,o  
B;MAGmD,wD;MAG3C,oCAAa,4BAAMB,KAAhB,EAA0B,WAAyB,KAAhD,C;MACb,eAAa,K;K;iEAGjB,Y;M  
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K;+DAEpC,mB;MACI,wBAAl,YAAJ,EAAW,OAAx,C;MACA,mC;MACA,cAAO,E;K;+DAGX,mB;MtEIFJ,IAA  
I,EsEmFU,gBAAQ,EtEnFIB,CAAJ,C;QACI,csEkFwB,4E;QtEjFxB,MAAM,6BAAsB,OAAQ,WAA9B,C;;MsEkFF  
,wBAAl,WAAJ,EAAU,OAAV,C;K;;IAIgb,+D;MAAuF,8B;MAAtF,kB;MAAoC,4B;MAC/D,eAAyB,C;MAGrB,o  
CAAa,2BAAkB,gBAAlB,EAA6B,OAA7B,EAAc,WAAK,KAA3C,C;MACb,eAAa,UAAU,gBAAV,I;K;wDAGjB

,0B;MACI,oCAAA,4BAAmB,KAAAnB,EAA0B,YAA1B,C;MAEb,WAAK,aAAI,mBAAY,KAAZ,IAAJ,EAAuB,OA  
AvB,C;MACL,mC;K;wDAGJ,iB;MACI,oCAAA,2BAAkB,KAAIB,EAAyB,YAAzB,C;MAEb,oAAO,wBAAK,mB  
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;K;2DAE/B,Y;MAA+C,WAAK,iB;K;;;ICxMN,8B;MAAiC,sB;MAwCnF,uBAAoC,I;MA+CpC,yBAA6C,I;K;IAIF  
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EAAc,IAAd,C;K;sDACC,iB;MAA4C,+DAAy,IAAZ,EAakB,KAAIB,C;K;;IAIB5C,8E;MAAA,wE;MAAsC,2CA  
AK,KAAM,IAAX,EAAGB,KAAM,MAAtB,C;MAAtC,Y;K;IASBJ,+C;MACsE,6B;K;mEACIE,mB;MAAmD,kCA  
Ac,OAAAd,C;K;iEAEnD,mB;MAAiD,gCAAY,OAAZ,C;K;;yCAIrD,Y;MACI,YAAQ,Q;K;IAOQ,+F;MAAA,sD;M  
AAS,6B;K;uFACb,mB;MAAwC,MAAM,qCAA8B,8BAA9B,C;K;mFAC9C,Y;MACI,4BAAwB,Q;K;4FAG5B,mB  
;MAAsD,sDAAy,OAAZ,C;K;IAI3C,oH;MAAA,kD;K;4GACH,Y;MAAkC,OAAA,0BAAc,U;K;yGACHD,Y;MAA  
yB,OAAA,0BAAc,OAAO,I;K;2GAC9C,Y;MAAwB,0BAAc,S;K;;sFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC5  
B,6G;K;0FAOJ,mB;MACI,qB;MACA,IAAI,+CAAY,OAAZ,CAAJ,C;QACI,4BAAwB,cAAO,OAAP,C;QACxB,O  
AAO,I;;MAEX,OAAO,K;K;oIAGY,Y;MAAQ,OAAA,4BAAwB,K;K;4FAEvD,Y;MAAsC,4BAAwB,iB;K;;0FA9B  
1E,Y;MACI,IAAI,4BAAJ,C;QACI,6F;;MA+BJ,OAAO,mC;K;kDAKf,gB;MAEyB,Q;MADrB,qB;MACqB,OAAA,  
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MxD,iBAAL,GAJ,EAAS,KAAT,C;;K;IAQc,iG;MAAA,sD;MAAS,oC;K;yFACf,mB;MAAwC,MAAM,qCAA8B,  
gCAA9B,C;K;qFAC9C,Y;MAAuB,4BAAwB,Q;K;8FAE/C,mB;MAAsD,wDAAc,OAAAd,C;K;IAI3C,sH;MAAA,k  
D;K;8GACH,Y;MAAkC,OAAA,0BAAc,U;K;2GACHD,Y;MAAyB,OAAA,0BAAc,OAAO,M;K;6GAC9C,Y;MAA  
wB,0BAAc,S;K;;wFAL9C,Y;MACI,oBAAoB,oCAAQ,W;MAC5B,+G;K;sIAOmB,Y;MAAQ,OAAA,4BAAwB,K;  
K;8FAEvD,Y;MAAsC,4BAAwB,iB;K;;4FAnB1E,Y;MACI,IAAI,8BAAJ,C;QACI,iG;;MAoBJ,OAAO,qC;K;gDA  
Gf,e;MACI,qB;MACA,WAAW,YAAQ,W;MACnB,OAAO,IAAK,UAAZ,C;QACI,YAAy,IAAK,O;QACjB,QAA  
Q,KAAM,I;QACd,IAAI,YAAO,CAAP,CAAJ,C;UACI,YAAy,KAAM,M;UACIB,IAAK,S;UACL,OAAO,K;;MA  
Gf,OAAO,I;K;kDAIX,Y;K;;IC3I+C,8B;MAAiC,oC;K;0CAEHf,iB;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;  
MAC3B,IAAI,0BAAJ,C;QAAsB,OAAO,K;MAC7B,OAAO,mCAAY,mBAAU,IAAV,EAAGB,KAahB,C;K;4CAG  
vB,Y;MAG+B,OAAA,mCAAY,2BAakB,IAAlB,C;K;;ICbT,0B;MAAuD,8B;MAAIC,4B;MACvD,4BAakC,K;K;g  
CAkBiC,Y;MAEI,qB;MACA,4BAaA,I;MACb,OAAO,I;K;qCAGX,Y;K;iDAGA,uB;K;iFAG8B,Y;MAAQ,OAAA,  
oBAAM,O;K;sCAC5C,iB;MACyC,Q;MAAA,oCAAM,0BAAW,KAAX,CAAN,4D;K;sCACzC,0B;MAIW,IAAa,I;  
MAHpB,qB;MACA,0BAAW,KAAX,C;MAEoB,gBAAb,qBAAM,KAAN,C;MAAQ,qC;MAA5B,OAAO,CAAA,O  
tE8BjB,SsE9BI,2D;K;oCAGX,mB;MACI,qB;MACM,oBAAY,MAAK,OAAL,C;MACIB,qC;MACA,OAAO,I;K;s  
CAGX,0B;MACI,qB;MACM,oBAAY,QAAO,mCAAoB,KAAPB,CAAP,EAAMC,CAAnC,EAAsC,OAAtC,C;MA  
CIB,qC;K;yCAGJ,oB;MACI,qB;MACA,IAAI,QAAS,UAAb,C;QAAwB,OAAO,K;MAE/B,uBAAA,oBxEioDoB,Q  
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AV,CAAU,EAAP,KAAO,CAAY,QIE9DE,YkE8DK,QIE9DL,CkE8DF,EAA4C,cAAN,oBAAM,EAAY,KAAZ,EAAM  
B,SAAnB,CAA5C,C;;MAG5D,qC;MACA,OAAO,I;K;2CAGX,iB;MACI,qB;MACA,0BAAW,KAAX,C;MACA,q  
C;MACA,OAAW,UAAS,sBAAb,GACG,oBAAY,MADf,GAGG,oBAAY,QAAO,KAAP,EAAC,CAAd,CAAlB,CA  
AmC,CAAnC,C;K;uCAGR,mB;MAEkB,Q;MADd,qB;MACc,2B;MAAd,mD;QACI,IAAI,4BAAM,KAAN,GAAG  
B,OAAhB,CAAJ,C;UACU,oBAAY,QAAO,KAAP,EAAC,CAAd,C;UACIB,qC;UACA,OAAO,I;;MAGf,OAAO,K;  
K;8CAGX,8B;MACI,qB;MACA,qC;MACM,oBAAY,QAAO,SAAP,EAakB,UAAU,SAAV,IAAlB,C;K;gCAGtB,  
Y;MACI,qB;MACA,uB9BhHuC,E;M8BiHvC,qC;K;wCAIJ,mB;MAA+C,OAAM,QAAN,oBAAM,EAQ,OAAR,  
C;K;4CAErD,mB;MAAmD,OAAM,YAAN,oBAAM,EAAY,OAAZ,C;K;mCAEzD,Y;MAA0B,uBAAc,oBAAd,C;  
K;0CAE1B,iB;MAGe,UAGL,MAHK,EAMO,M;MAPIB,IAAI,KAAM,OAAN,GAAa,SAAjB,C;QACI,OAAO,2D;;  
MAGc,gBAAxB,eAAK,SAAL,IAAK,gBAAL,yB;MxEuwBL,UAAU,SAAV,EwEvwBsC,KxEuwBtC,EAD+F,CA

C/F,EADoH,CACpH,EADuI,gBACvI,C;MwErwBI,IAAI,KAAM,OAAN,GAAa,SAAjB,C;QACI,MAAM,SAAN,IAAc,6E;;MAGIB,OAAO,K;K;kCAGX,Y;MACI,OAAO,EAAS,MAAM,MAAK,oBAAL,C;K;yCAIIB,Y;MACI,IAAI,yBAAJ,C;QAAgB,MAAM,oC;K;+CAG1B,iB;MACI,oCAAa,kCAAYB,SAAzB,C;MADoB,Y;K;wDAIrC,iB;MACI,oCAAa,mCAA0B,SAA1B,C;MAD6B,Y;K;;IAIJ9C,+B;MAAA,mD;MAG8B,sB9BRa,E8BQb,C;MAH9B,Y;K;IAKA,kD;MAAA,mD;MAIkD,sB9BdP,E8BcO,C;MAJID,Y;K;IAMA,2C;MAAA,mD;MAGqD,sBIENa,YkEMR,QIENQ,CkEMb,C;MAHrD,Y;K;ICrBJ,0C;MACI,IAAI,6BAAJ,C;QACU,KAAy,MAAK,UAAAL,C;;QAEIB,UAAU,KAAV,EAAwC,CAAxC,EAAiD,cAAN,KAAM,CAAjD,EAA4D,eAAW,UAAx,CAA5D,C;;K;IAMiB,kD;MAAA,uB;QAAgB,OAAA,kBAAW,SAAQ,CAAR,EAAW,CAAX,C;O;K;IAFpD,4C;MACI,IAAI,6BAAJ,C;QACI,iBAAiB,gC;QACX,KAAy,MAAK,UAAAL,C;;QAEIB,UAAU,KAAV,EAAwC,CAAxC,EAAiD,cAAN,KAAM,CAAjD,EAA4D,UAA5D,C;;K;IAIR,gE;MACI,IAAI,aAAy,UAAU,CAAV,IAAZ,CAAJ,C;QACI,UAAU,KAAV,EAAwC,SAAXC,EAAmD,UAAU,CAAV,IAAnD,EAAgE,UAAhE,C;;K;IAMiB,gC;MAAgB,OAAE,iBAAF,CAAE,EAAU,C AAV,C;K;IAF3C,0B;MACI,IAAI,6BAAJ,C;QACI,iBAAiB,gB;QACX,KAAy,MAAK,UAAAL,C;;QAEIB,UAAU,KAAV,EAAwC,CAAxC,EAAiD,cAAN,KAAM,CAAjD,EAA4D,cAA5D,C;;K;;IAaa,kD;MAAoB,QAAC,IAAM,C AAP,KAAa,IAAM,CAAnB,K;K;IARzC,uC;MACI,sC;QAAiC,OAAjC,yB;;MACA,4BAA4B,K;MAE5B,YAAy,E;MAGZ,iBAAc,CAAd,UAAsB,GAAtB,U;QAAiC,KAAy,MAAK,KAAL,C;MAC7C,iBAAiB,kC;MACX,KAAy,M AAK,UAAAL,C;MACIB,mBAAc,CAAd,YAAsB,KAAM,OAA5B,Y;QACI,QAAQ,MAAM,UAAQ,CAAR,IAAN,C ;QACR,QAAQ,MAAM,OAAN,C;QACR,IAAI,CAAC,IAAM,CAAP,OAAc,IAAM,CAAPB,KAA0B,KAAK,CAA nC,C;UAAsC,OAAO,K;;MAEjD,4BAA4B,I;MAC5B,OAAO,I;K;IAIX,2D;MACI,aAAa,gBAAmB,KAAM,OAAz B,O;MACb,aAAa,YAAU,KAAV,EAAiB,MAAjB,EAAyB,KAAzB,EAAgC,YAAhC,EAA8C,UAA9C,C;MACb,IA AI,WAAW,KAAf,C;QACI,aAAU,KAAV,OAAiB,YAAjB,M;UAA+B,MAAM,CAAN,IAAW,OAAO,CAAP,C;;K; IAII,4D;MAEI,IAAI,UAAAS,GAAb,C;QACI,OAAO,K;;MAGX,aAAa,CAAC,QAAQ,GAAR,IAAD,IAAgB,CAA hB,I;MACb,WAAW,YAAU,KAAV,EAAiB,MAAjB,EAAyB,KAAzB,EAAgC,MAAhC,EAAwC,UAAxC,C;MAC X,YAAy,YAAU,KAAV,EAAiB,MAAjB,EAAyB,SAAS,CAAT,IAAzB,EAAqC,GAARc,EAA0C,UAA1C,C;MAE Z,aAAiB,SAAS,MAAb,GAAqB,KAArB,GAAgC,M;MAG7C,gBAAGB,K;MAChB,iBAAiB,SAAS,CAAT,I;MACj B,aAAU,KAAV,OAAiB,GAAjB,M;QAEQ,iBAAa,MAAb,IAAuB,cAAc,GAARc,C;UACI,gBAAGB,KAAK,SAAL ,C;UACHB,iBAAiB,MAAM,UAAAN,C;UAEjB,IAAI,UAAW,SAAQ,SAAR,EAAmB,UAAAnB,CAAX,IAA6C,CAAj D,C;YACI,OAAO,CAAP,IAAY,S;YACZ,6B;;YAEA,OAAO,CAAP,IAAY,U;YACZ,+B;;eAGR,iBAAa,MAAb,C; UACI,OAAO,CAAP,IAAY,KAAK,SAAL,C;UACZ,6B;;UAGA,OAAO,CAAP,IAAY,MAAM,UAAAN,C;UACZ,+ B;;MAMZ,OAAO,M;K;ICrGX,4C;MAMoB,UACM,M;MAHtB,IAAI,iBAAJ,C;QAAkB,OAAO,C;MACzB,aAAa, C;MACb,wBAAGB,SAAhB,gB;QAAgB,cAAA,SAAhB,M;QAEQ,oB;UAAmB,U;;UACnB,I1BFiC,MAAA,Y0BEn C,O1BFmC,C0BE9C,C;YAAwD,iCAAhC,OAAgC,C;iBAExD,uC;YAAmC,2BAAR,OAAQ,C;eACnC,wC;YAAm C,2BAAR,OAAQ,C;eACnC,sC;YAAmC,2BAAR,OAAQ,C;eACnC,uC;YAAmC,2BAAR,OAAQ,C;;YAEA,kBAA R,OAAQ,C;;QATvC,wB;QAYA,SAAS,MAAK,MAAL,QAAC,WAAAd,I;;MAEb,OAAO,M;K;;ICTP,uC;MAAA,2 C;K;2DACI,0B;MAA2D,sBAAU,MAAV,C;K;gEAE3D,iB;MAA6C,Q;MAAA,wEAAqB,C;K;;IAHtE,mD;MAAA ,kD;QAAA,iC;;MAAA,2C;K;;MC0BA,iC;MAKA,8B;MA6CA,0BAAmE,I;;IAzEnE,kC;MAAA,oB;MAA+B,8C; K;2CAE3B,mB;MAAYD,MAAM,qCAA8B,iCAA9B,C;K;uCAC/D,Y;MACI,WAAa,Q;K;uDAGjB,mB;MAAgE,O AAA,WAAa,uBAAc,OAAd,C;K;0CAE7E,Y;MAAwE,OAAA,iCAAY,W;K;qDAEpF,mB;MACI,IAAI,iBAAS,OA AT,CAAJ,C;QACI,WAAa,cAAO,OAAQ,IAAf,C;QACb,OAAO,I;;MAEX,OAAO,K;K;wFAGY,Y;MAAQ,OAAA, WAAa,K;K;;8BA6ChD,Y;MACI,0BAAY,Q;K;0CAIhB,e;MAAmD,OAAA,0BAAY,gBAAS,GAAT,C;K;4CAE/D, iB;MAAmE,gBAAZ,0B;MAAY,c;;QvE+mDnD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP, e;;QACrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAm,IuE/mDmD,uBAAS,gBvE+mD9C,OuE/mDwD,MA AV,QvE+mD5D,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,K;;MuEhnDgD,iB;K;kFAInD,Y;MACI,IAAI,+BA AJ,C;QACI,0BAAW,qB;;MAEf,OAAO,sC;K;uCAGf,Y;MAAgF,iC;K;kCAEHf,e;MAA+C,OAAA,0BAAY,WAAI ,GAAJ,C;K;oCAE3D,sB;MAAgD,OAAA,0BAAY,aAAI,GAAJ,EAAS,KAAT,C;K;qCAE5D,e;MAAYC,OAAA,0B AAY,cAAO,GAAP,C;K;+EAEvB,Y;MAAQ,OAAA,0BAAY,K;K;;IA5DID,0C;MAAA,iD;MAAuD,8B;MAvC3D, mB;MAwCQ,8BAAmB,W;MACnB,2BAAGB,WAAy,S;MAFhC,Y;K;IAKA,+B;MAAA,iD;MAGuB,aAAK,kEAA L,Q;MAHvB,Y;K;IAKA,4D;MAAA,iD;MAQ8D,qB;M7EpC9D,IAAI,E6EsCQ,mBAAmB,C7EtC3B,CAAJ,C;QA CI,c6EqCgC,+C;Q7EpChC,MAAM,gCAAYB,OAAQ,WAAjC,C;;MAFV,IAAI,E6EuCQ,cAAc,C7EvCtB,CAAJ,C;

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,qC;K;;IANJ,8B;MAAA,mF;K;;IAAA,mC;MAAA,a;aAAA,a;UAAA,4C;aAAA,W;UAAA,0C;;UAAA,4D;;K;;IAa  
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ChB,OAAO,C;K;mFAU8E,qB;MAAQ,OAAG,E;K;+FAEL,qB;MAAQ,OAAC,a;K;iFAE7B,qB;MAAQ,OAAO,M;  
K;yFAEX,qB;MAAQ,OAAW,U;K;+EAEvB,qB;MAAQ,OAAO,M;K;+EAEf,qB;MAAQ,OAAO,M;K;oEtIjIvG,yB  
;MAAA,kF;MAAA,0B;MAAA,uB;QaaI,IAAI,OAAO,CAAP,IAA8B,OAAO,KAAzC,C;UACI,MAAM,8BAAyB,  
wBAAqB,IAA9C,C;;QAEV,OAAy,OAAL,IAAK,C;O;KAhBhB,C;0EAwCiC,qB;MAAQ,OAAA,SAAK,I;K;IuInB  
V,6B;MAAC,qB;QAAA,8C;MAAA,kB;K;IACjC,2C;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,yC;MAAA,4C;O;  
MAKI,0E;MAEA,sE;K;;IAFA,kD;MAAA,+B;MAAA,0C;K;;IAEA,gD;MAAA,+B;MAAA,wC;K;;IAPJ,qC;MAA  
A,yF;K;;IAAA,0C;MAAA,a;aAAA,S;UAAA,+C;aAAA,O;UAAA,6C;;UAAA,8D;;K;;IA0BmC,sC;MACnC,8B;K;  
;IAMqC,sC;MACrC,8B;K;;IC5DJ,iC;K;;ICMA,4B;K;;IA6BA,gD;K;;IC5BA,qC;K;;IA0BA,+B;K;;ICNqC,uC;MA  
CjC,uB;QAAA,UAAsB,E;MACTB,qB;QAAA,+C;MADA,sB;MACA,kB;K;IAEA,4C;MAAA,e;MAAA,iB;MAAA,  
uB;K;IAAA,0C;MAAA,6C;O;MAKI,4E;MAGA,wE;K;;IAHA,mD;MAAA,gC;MAAA,2C;K;;IAGA,iD;MAAA,gC  
;MAAA,yC;K;;IARJ,sC;MAAA,2F;K;;IAAA,2C;MAAA,a;aAAA,S;UAAA,gD;aAAA,O;UAAA,8C;;UAAA,+D;;  
K;;IAyByB,4B;MACzB,8B;K;;IC/C4C,8B;K;kDAI5C,mB;MAA6D,c;;QrJ2rD7C,Q;QADhB,IAAI,mCAAsB,cAA  
1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,sB;QAaHb,OAAGB,cAAhB,C;UAAgB,2B;UAAM,IqJ3rD6C,OrJ2rD/B,  
SqJ3rD+B,UrJ2rD7C,C;YAAwB,aAAO,I;YAAP,e;;;QAC9C,aAAO,K;;;MqJ5rDsD,iB;K;uDAE7D,oB;MACa,c;;Qr  
JmqDG,Q;QADhB,IAAI,cqJlqDA,QrJkqDA,iBqJlqDA,QrJkqDsB,UAA1B,C;UAAqC,aAAO,I;UAAP,e;;QACrB,O  
qJnqDZ,QrJmqDY,W;QAaHb,OAAGB,cAAhB,C;UAAgB,yB;UAAM,IAAI,CqJnqDP,oBrJmqDkB,OqJnqDIB,CrJ  
mqDG,C;YAAyB,aAAO,K;YAAP,e;;;QAC/C,aAAO,I;;;MqJpQDH,iB;K;2CAEJ,Y;MAAkC,qBAAQ,C;K;IAEqB,q  
E;MAAA,qB;QAC3D,OAAI,OAAO,uBAAX,GAAiB,mBAAjB,GAA6C,SAAH,EAAG,C;O;K;4CADjD,Y;MAAk  
C,4BAAa,IAAb,EAAMB,GAAnB,EAAwB,GAAXB,kBAA6B,wCAA7B,C;K;2CAIIC,Y;MAI4C,uBAAgB,IAAhB,

C;K;mDAE5C,iB;MAI4D,yBAAgB,IAAhB,EAA5B,KAAtB,C;K;;IC/BhE,8B;MAAA,e;MAAA,iB;MAAA,uB;K;I  
AAA,4B;MAAA,+B;O;MACI,4C;MACA,kD;MACA,0C;MACA,8C;K;;IAHA,mC;MAAA,kB;MAAA,2B;K;;IAC  
A,sC;MAAA,kB;MAAA,8B;K;;IACA,kC;MAAA,kB;MAAA,0B;K;;IACA,oC;MAAA,kB;MAAA,4B;K;;IAJJ,wB;  
MAAA,sH;K;;IAAA,6B;MAAA,a;aAAA,O;UAAA,gC;aAAA,U;UAAA,mC;aAAA,M;UAAA,+B;aAAA,Q;UAAA  
,iC;;UAAA,6D;;K;;IAOA,4B;MAKI,mD;MACA,2BAA4B,I;K;yCAE5B,Y;MAEiB,IAAN,I;M5JUX,IAAI,E4JXQ,  
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M;UAAc,Y;UAAAd,K;aACA,O;UAAe,W;UAAf,K;;UACQ,wC;UAHL,K;;MAAP,W;K;;CAOJ,Y;MAIW,Q;MAHP,  
IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;MACtB,mD;MAEA,OAAO,2F;K;4DAGX,Y;MACI,iD;MACA,kB;MA  
CA,OAAO,kD;K;+CAeX,iB;MAII,2BAAY,K;MACZ,gD;K;sCAGJ,Y;MAII,+C;K;;ICjDkC,wB;MAoFtC,oC;MAP  
FgE,6B;K;sCAIhE,Y;MAAuC,0C;K;2CAEvC,mB;MAAwD,uB;;QvJkU3C,Q;QADb,YAAY,C;QACC,sB;QAAb,O  
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;;QAEJ,sBAAO,E;;MuJvUiD,0B;K;+CAExD,mB;MAA4D,sB;;QvJ2V5D,eAAoB,0BAAa,SAAb,C;QACpB,OAA  
O,QAAS,cAAhB,C;UACI,IuJ7VsE,OvJ6VxD,QAAS,WuJ7V+C,UvJ6VtE,C;YACI,qBAAO,QAAS,Y;YAAhB,uB;  
;;QAGR,qBAAO,E;;MuJjWqD,yB;K;0CAE5D,Y;MAA+C,+CAAiB,CAAjB,C;K;kDAE/C,iB;MAAyD,+CAAiB,  
KAAjB,C;K;6CAEzD,8B;MAA8D,gCAAQ,IAAR,EAAc,SAAd,EAAyB,OAAzB,C;K;IAEIC,wD;MAAGf,uB;MA  
A/E,kB;MAAmC,4B;MAC5D,eAAyB,C;MAGrB,+DAAkB,gBAAIB,EAA6B,OAA7B,EAA5C,WAAK,KAA3C,C;  
MACA,eAAa,UAAU,gBAAV,I;K;iDAGjB,iB;MACI,+DAAkB,KAAIB,EAAyB,YAAzB,C;MAEA,OAAO,wBAA  
K,mBAAY,KAAZ,IAAL,C;K;4FAGY,Y;MAAQ,mB;K;;oCAGnC,iB;MAMI,IAAI,UAAU,IAAd,C;QAAoB,OAA  
O,I;MAC3B,IAAI,2BAAJ,C;QAAuB,OAAO,K;MAE9B,OAAO,2DAAc,IAAd,EAAoB,KAApB,C;K;sCAGX,Y;M  
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C,Y;MAEe,gB;MADX,IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;MACX,iE;MAAX,OAAO,+B;K;;IAO0B,sD;M  
AHZC,oB;MAGwD,iD;MAGhD,gEAAmB,KAAmB,EAA0B,WAAkB,KAA5C,C;MACA,eAAa,K;K;0DAGjB,Y;M  
AAsC,sBAAQ,C;K;wDAE9C,Y;MAAgC,mB;K;uDAEhC,Y;MACI,IAAI,CAAC,kBAAL,C;QAAoB,MAAM,6B;  
MAC1B,OAAO,yBAAL,mCAAJ,EAAI,YAAJ,E;K;4DAGX,Y;MAAoC,sBAAQ,CAAR,I;K;;IAGxC,kC;MAAA,sC  
;K;iEACI,uB;MACI,IAAI,QAAQ,CAAR,IAAa,SAAS,IAA1B,C;QACI,MAAM,8BAA0B,YAAS,KAAT,gBAAuB,  
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,gBAAuB,IAAJD,C;;K;iEAIId,oC;MACI,IAAI,YAAY,CAAZ,IAAiB,UAAU,IAA/B,C;QACI,MAAM,8BAA0B,gB  
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BAA0B,iBAAc,UAAAd,oBAAqC,QAArC,gBAAsD,IAAhF,C;;MAEV,IAAI,aAAa,QAAjB,C;QACI,MAAM,gCAA  
yB,iBAAc,UAAAd,qBAAsC,QAA/D,C;;K;+DAId,a;MAEc,UACsB,M;MAFhC,iBA Ae,C;MACL,mB;MAAV,OAA  
U,cAAV,C;QAAU,mB;QACN,aAAW,MAAK,UAAAL,SAAiB,6DAAiB,CAAI,C;K;;MAEf,OAAO,U;K;6DAGX,oB  
;MAIiB,Q;MAHb,IAAI,CAAE,KAAF,KAAU,KAAM,KAApB,C;QAA0B,OAAO,K;MAEjC,oBAAoB,KAAM,W;  
MACb,mB;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,gBAAGB,aAAc,O;QAC9B,IAAI,cAAQ,SAAR,CAAJ,C;UAC  
I,OAAO,K;;MAGf,OAAO,I;K;;IAjDf,8C;MAAA,6C;QAAA,4B;;MAAA,sC;K;;ICnFwC,uB;MAyHxC,mC;MAz  
CA,uBAC6B,I;MAmC7B,yBACsC,I;K;8CAnHtC,e;MACI,OAAO,6BAAc,GAAd,S;K;gDAGX,iB;MAAwE,gBAA  
R,Y;MAAQ,c;;QxJkrDxD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,2B;QAAhB  
,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IwJlrDwD,OxJkrD1C,OwJlrD6C,MAAH,QxJkrDxD,C;YAAwB,aAAO,I;  
YAAP,e;;QAC9C,aAAO,K;;MwJnrDyD,iB;K;kDAEhE,iB;MAEL,IAAI,gCAAJ,C;QAA+B,OAAO,K;MACtC,UA  
AU,KAAM,I;MACHB,YAAY,KAAM,M;MrKiNO,Q;MqKhNzB,erKgN4C,CAAnB,mDAAmB,YqKhNzB,GrKgN  
yB,C;MqK9M5C,IAAI,eAAS,QAAT,CAAJ,C;QACI,OAAO,K;;MAIP,6B;MAAA,W;QrK0NqB,U;QqK1ND,UrK0  
NoB,CAAnB,uDAAmB,oBqK1NP,GrK0NO,C;;MqK1N5C,W;QACI,OAAO,K;;MAGX,OAAO,I;K;mCAIX,iB;M  
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AA1B,C;UAAqC,aAAO,I;UAAP,e;;QACrB,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IAAI,CwJ7nDK,2  
BxJ6nDM,OwJ7nDN,CxJ6nDT,C;YAAyB,aAAO,K;YAAP,e;;QAC/C,aAAO,I;;MwJ9nDH,iB;K;sCAGJ,e;MAA  
wC,Q;MAAA,4CAAc,GAAd,8B;K;qCAGxC,Y;MAK+B,OAAQ,SAAR,YAAQ,C;K;oCAEvC,Y;MAAkC,qBAAQ  
,C;K;mFACnB,Y;MAAQ,OAAA,YAAQ,K;K;IAWnB,0E;MAAA,wC;MAAS,sB;K;8EACb,mB;MAAsD,+CAAY,

OAAZ,C;K;IAI3C,sG;MAAA,kD;K;8FACH,Y;MAAkC,OAAA,0BAAc,U;K;2FACHd,Y;MAAyB,OAAA,0BAAc,  
OAAO,I;K;;wEAJtD,Y;MACI,oBAAoB,6BAAQ,W;MAC5B,+F;K;sHAMmB,Y;MAAQ,OAAA,qBAAiB,K;K;;mF  
Ab5D,Y;MACI,IAAI,4BAAJ,C;QACI,+E;;MAcJ,OAAO,mC;K;IAOwD,uD;MAAA,qB;QAAE,2CAAS,EAAT,C;  
O;K;qCAAzE,Y;MAAkC,OAAQ,eAAR,YAAQ,EAAa,IAAb,EAAmB,GAAnB,EAAwB,GAAxB,kBAA6B,iCAA7  
B,C;K;+CAE1C,iB;MAAuD,+BAAS,KAAM,IAAf,IAAsB,GAAtB,GAA4B,wBAAS,KAAM,MAAf,C;K;+CAEnF,  
a;MAAwC,OAAI,MAAM,IAAV,GAAGB,YAAhB,GAAoC,SAAF,CAAE,C;K;IAWtD,4E;MAAA,wC;MAAS,6B;  
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ChD,Y;MAAyB,OAAA,0BAAc,OAAO,M;K;;0EAJtD,Y;MACI,oBAAoB,6BAAQ,W;MAC5B,iG;K;wHAMmB,Y  
;MAAQ,OAAA,qBAAiB,K;K;;qFAb5D,Y;MACI,IAAI,8BAAJ,C;QACI,mF;;MAcJ,OAAO,qC;K;oDAMf,e;MAA  
8D,gBAAR,Y;MAAQ,sB;;QxJiJ9C,Q;QAAA,2B;QAAhB,OAAGB,cAAhB,C;UAAGB,yB;UAAM,IwJjJsD,OxJiJx  
C,OwJjJ2C,IAAH,MxJiJtD,C;YAAwB,qBAAO,O;YAAP,uB;;;QAC9C,qBAAO,I;;;MwJlJ+C,yB;K;IAEtD,iC;MA  
AA,qC;K;4DAEI,a;MAAiE,gC;MAAX,OAAU,CAAC,kBAAN,CAAM,0DAAmB,CAApB,KAA4B,oBAAjC,CAA  
iC,8DAAqB,CAAjD,C;K;4DACHe,a;MAAyD,OAAU,SAAL,CAAO,IAAF,mBAAL,CAAY,MAAP,C;K;0DACnE,  
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C;QAAsB,OAAO,K;MAC7B,OAAO,sDAAU,IAAV,EAAGB,KAAhB,C;K;qCAGX,Y;MAG+B,qEAAkB,IAAiB,C  
;K;IAE/B,iC;MAAA,qC;K;gEACI,a;MAEoB,Q;MADhB,iBAAE,C;MACC,mB;MAAhB,OAAGB,cAAhB,C;QAAg  
B,yB;QACC,U;QAAb,2BAAa,yEAAuB,CAApC,K;;MAEJ,OAAO,U;K;wDAGX,oB;MACI,IAAI,CAAE,KAAF,K  
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B,Y;MAAA,0B;K,OAAA,gB;MAAA,0B;K;4CA8BA,uB;MAOI,IAAI,cAAc,CAAlB,C;QAAqB,MAAM,6BAAsB,  
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c,gBAAYB,gBAAZ,WAAy,EAAC,EAAd,CAAzB,O;QACd,M;;MAGJ,kBAAkB,uDAAY,kBAAY,OAAxB,EAA8  
B,WAA9B,C;MACIB,oBAAa,WAAb,C;K;0CAGJ,uB;MAII,kBAAkB,gBAAmB,WAAAnB,O;M/J20BtB,U+J10BI,k  
B/J00BJ,E+J10ByB,W/J00BzB,E+J10BsC,C/J00BtC,E+J10ByC,W/J00BzC,E+J10B+C,kBAAY,O/J00B3D,C;MA  
AA,U+Jz0BI,kB/Jy0BJ,E+Jz0ByB,W/Jy0BzB,E+Jz0BsC,kBAAY,OAAZ,GAAMB,WAAAnB,I/Jy0BtC,E+Jz0B+D,  
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C,U;QAKcM,B,OAIcN,B,6BAQyC,mBAAy,cA0BiB,sBA1BjB,IAAZ,CARzC,gE;;MAkCmB,W;K;0CAE9B,mB;M  
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B,sBAAvB,C;MA7Dd,Q;MA+DP,cA/DO,2BA+DmB,WA/DnB,4D;MAGeP,mBAAy,WAAZ,IAAoB,I;MACpB,c  
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AhC,GAA0C,I;K;IAEtG,uD;MAI0E,OAAI,oCAAJ,GAA2B,SAAK,KAAhC,GAA0C,S;K;IAGpH,8B;MAMoB,Q;  
MADhB,aAAa,gB;MACG,2B;MAAhB,OAAGB,cAAhB,C;QAAGB,yB;QACL,OAAP,MAAO,EAAO,OAAP,C;;M  
AEX,OAAO,M;K;IAGX,4B;MAUiB,Q;MAHb,mBAAmB,mCAAwB,EAAxB,C;MACnB,YAAY,iBAaA,YAAb,C;  
MACZ,YAAY,iBAaA,YAAb,C;MACC,2B;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,KAAM,WAAI,IAAK,MAAT,  
C;QACN,KAAM,WAAI,IAAK,OAAT,C;;MAEV,OAAO,UAAS,KAAT,C;K;wFUxDX,qB;MAKqE,gB;K;IAErE,i  
C;MAMoE,4BAAiB,SAAjB,C;K;uFAEpE,gC;MAKI,OAAGB,mBAAhB,C;QAAGB,8B;QAAM,UAAU,OAAP,C;;  
K;IAMY,oC;MAAC,0B;MACnC,eAAoB,C;K;yCACpB,Y;MAAwC,OAAA,eAAS,U;K;sCACjD,Y;MAA6E,Q;MA  
AhC,wBAaA,oBAAmB,mBAAnB,EAAmB,2BAAnB,QAAb,EAA0C,eAAS,OAAnD,C;K;;sF4J5BjD,yB;MAAA,4  
E;MAAA,gB;MAAA,8B;MAAA,+C;QAUiC,Q;QAA7B,OAA6B,wCAAqB,QAAS,aAA9B,0D;O;KAVjC,C;wFAY  
A,yB;MAAA,4E;MAAA,gB;MAAA,8B;MAAA,+C;QAWiC,Q;QAA7B,OAA6B,wCAAqB,QAAS,aAA9B,0D;O;  
KAXjC,C;sFAaA,+C;MAQI,SAAK,aAAI,QAAS,aAAb,EAAmB,KAAAnB,C;K;ICnCT,8C;MAUI,IAAI,wCAAJ,C;  
QACI,OAAO,SAAK,4BAaQb,GAARb,C;MAET,4B;M5KoTI,Q;MALX,YAAY,oB4K/Sa,G5K+Sb,C;MACZ,IAAI  
,iBAAiB,CAAC,4B4KhTG,G5KgTH,CAAtB,C;Q4KhTgC,MAAM,2BAAuB,wCAAvB,C;;Q5KoTIC,2BAAO,sE;;  
M4KpTX,+B;K;IAGJ,8C;MAUQ,kBADE,SACF,kB;QADJ,OACkC,YAAT,SAAK,IAAI,EAA,YAAZ,C;;QADIC  
,OAEY,uBAAmB,SAAnB,EAAyB,YAAzB,C;K;IAGhB,gD;MAWQ,kBADE,SACF,yB;QADJ,OACyC,cAAT,SA  
AK,IAAI,EAA,YAAZ,C;;QADzC,OAEY,8BAA0B,SAA1B,EAAgC,YAAhC,C;K;;;IAc0B,4C;MAAC,wB;M  
AAoC,0B;K;qEAApC,Y;MAAA,yB;K;0CACvC,iB;MAA4C,OAAI,OAAJ,QAAL,EAAO,KAAP,C;K;4CACHD,Y;  
MAA+B,OAAI,SAAJ,QAAL,C;K;4CACnC,Y;MAAkC,OAAA,QAAL,W;K;0FACf,Y;MAAQ,OAAA,QAAL,K;K;2  
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gE,OAAA,QAAL,qBAAc,KAAAd,C;K;6CACpE,e;MAA+B,OAAA,QAAL,WAAI,GAAJ,C;K;0FACT,Y;MAAQ,OA

AA,QAAl,K;K;4FACH,Y;MAAQ,OAAA,QAAl,O;K;6FACJ,Y;MAAQ,OAAA,QAAl,Q;K;8DAEvD,e;MAAmD,g  
BAAJ,Q;MAAl,4B;M5K4PxC,Q;MALX,YAAY,oB4KvPyD,G5KuPzD,C;MACZ,IAAl,iBAAlB,CAAC,4B4KxP+  
C,G5KwP/C,CAAtB,C;QACI,2B4KzPwE,mB;;Q5K4PxE,2BAAO,sE;;M4K5PoC,+B;K;;IAGN,mD;MAAC,wB;M  
AA2C,0B;K;4EAA3C,Y;MAAA,yB;K;iDAC1C,iB;MAA4C,OAAI,OAAJ,QAAl,EAAO,KAAP,C;K;mDACHD,Y;  
MAA+B,OAAI,SAAJ,QAAl,C;K;mDACnC,Y;MAAkC,OAAA,QAAl,W;K;iGACf,Y;MAAQ,OAAA,QAAl,K;K;k  
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AgE,OAAA,QAAl,qBAAc,KAAd,C;K;oDACpE,e;MAA+B,OAAA,QAAl,WAAI,GAAJ,C;K;iGACF,Y;MAAQ,O  
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yC,OAAA,QAAl,aAAI,GAAJ,EAAS,KAAT,C;K;uDAC7C,e;MAAkC,OAAA,QAAl,cAAO,GAAP,C;K;yDACtC,  
gB;MAA2C,QAAl,gBAAO,IAAP,C;K;gDAC/C,Y;MAAuB,QAAl,Q;K;qEAE3B,e;MAAmD,gBAAJ,Q;MAAl,4B;  
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B,C;QACI,2B4KpOwE,mB;;Q5KuOxE,2BAAO,sE;;M4KvOoC,+B;K;;I5KvFnD,oB;MAAA,wB;MACI,8C;K;gCA  
EA,iB;MAA4C,oCAAsB,KAAM,U;K;kCACxE,Y;MAA+B,Q;K;kCAC/B,Y;MAAkC,W;K;gFAEX,Y;MAAQ,Q;K  
;iCAC/B,Y;MAAkC,W;K;2CAEIC,e;MAA+C,Y;K;6CAC/C,iB;MAAsD,Y;K;mCACtD,e;MAAwC,W;K;mFACY,  
Y;MAAQ,6B;K;gFAC/B,Y;MAAQ,6B;K;kFACI,Y;MAAQ,8B;K;uCAEjD,Y;MAAiC,6B;K;;IAjBrC,gC;MAAA,+  
B;QAAA,c;;MAAA,wB;K;IAoBA,oB;MAMuE,Q;MAA7B,OAA6B,uE;K;IAEvE,wB;MAaI,OAAI,KAAM,OAAN  
,GAAa,CAAjB,GAA0B,QAAN,KAAM,EAAM,qBAAc,YAAY,KAAM,OAAIB,CAAd,CAAN,CAA1B,GAA6E,U;  
K;kFAEjF,yB;MAAA,oD;MAAA,mB;QA08C,iB;O;KAP9C,C;8FASA,yB;MAAA,wE;MAAA,mB;QAQ4D,2B;O;  
KAR5D,C;IAUA,+B;MAYiD,gBAA7C,qBAAoB,YAAY,KAAM,OAAIB,CAApB,C;MAAqD,wB;MAArD,OUJO,  
S;K;wFVMX,yB;MAAA,4D;MAAA,mB;QA0sD,qB;O;KAPtD,C;IASA,4B;MAM8G,gBAAvC,eAAc,YAAY,KA  
AM,OAAIB,CAAd,C;MAA+C,wB;MAA/C,OUrB5D,S;K;4FVuBX,yB;MAAA,wE;MAAA,mB;QAK8D,2B;O;KA  
L9D,C;IAOA,8B;MAU+E,OAAM,QAAN,KAAM,EAAM,qBAAc,YAAY,KAAM,OAAIB,CAAd,CAAN,C;K;sFA  
ErF,yB;MchBA,wE;MdgBA,gC;QcZiC,gBAAtB,oB;Qd8BiB,aU7DxB,W;QV6DA,OU5DO,SI8B2C,Q;O;KdYtD,C  
;uFA0BA,yB;McnCA,uE;MdmCA,0C;Qc/ByC,gBAA9B,mBdqDiB,QcrDjB,C;QdqD2B,aU3FIC,W;QV2FA,OU1F  
O,SIqCmD,Q;O;Kd+B9D,C;4FAoCA,qB;MAK+D,QAAC,mB;K;kGAEH,e,qB;MAWI,OAAO,qBAAGB,mB;K;sFA  
G3B,yB;MAAA,oD;MAAA,4B;QAM2D,uCAAQ,U;O;KANnE,C;sFAQA,mC;MASI,OAAI,mBAAJ,GA Ae,cAAf,  
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oE,sB;K;kFAEpE,yB;MAAA,6B;MAAA,4B;QAIGe,qBAAK,aAAL,EAAU,eAAV,C;O;KAJhE,C;2FAMA,wC;MA  
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AY,oBAAI,GAAJ,C;QACZ,IAAl,iBAAlB,CAAC,4BAAy,GAAZ,CAAtB,C;UACI,OAAO,c;;UAGP,OAAO,sE;;O  
;KANf,C;IAUA,oC;MAUKD,uCAAqB,GAARB,C;K;sFAEID,wC;MAUW,Q;MADP,YAAY,oBAAI,GAAJ,C;MAC  
L,IAAl,aAAJ,C;QACH,aAAa,c;QACb,sBAAl,GAAJ,EAAS,MAAT,C;QACA,a;;QAEA,Y;;MALJ,W;K;wFASJ,qB  
;MAMwF,OAAA,iBAAQ,W;K;wFAEH,g,qB;MAMgH,OAAA,iBAAQ,W;K;4FAEXH,6C;Maq1BoB,Q;MAAA,Ob  
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ArB,OAAqB,cAArB,C;QAAqB,wB;QAAhB,IAAC,yBAAD,EAAM,2B;QACP,sBAAl,GAAJ,EAAS,KAAT,C;;K;I  
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Y,cAAZ,CAApB,C;Qa8xBH,Q;QAAA,Obh1BT,iBag1BS,W;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;Ubh1Ba,Wai  
1Bb,aAAGB,Obj1Be,Iai1B/B,Eb/xB2C,Sa+xBjB,CAAe,OAAf,CAA1B,C;;Qb/xBhB,OAlD6B,W;O;KAyCjC,C;OF

AYA,yB;MAAA,0D;MAAA,uE;MAAA,uC;QAYW,kBAAU,mBAAoB,YAAY,cAAZ,CAApB,C;Qa+wBD,Q;QA  
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KAbX,C;8FAGBA,yB;MAAA,wE;MAAA,uC;QAQkB,Q;QADd,aAAa,oB;QACC,OAAA,SA3GsE,QAAQ,W;QA2  
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AZ,EAAiB,OAAQ,MAAzB,C;;;MAGpB,OAAO,W;K;qFAGX,yB;MAAA,wE;MAAA,uC;QAOW,kBAAS,oB;QA  
fA,Q;QAAA,OA3HoE,iBAAQ,W;QA2H5F,OAAgB,cAAhB,C;UAAgB,yB;UACZ,IAcmC,SAd/B,CAAU,OAAV,  
CAAJ,C;YACI,WAAy,aAAI,OAAQ,IAAZ,EAAiB,OAAQ,MAAzB,C;;;QAapB,OAVO,W;O;KAGX,C;+FAUA,6  
C;MAOoB,Q;MAAA,OAAA,SapJoE,QAAQ,W;MAoJ5F,OAAgB,cAAhB,C;QAAgB,yB;QACZ,IAAI,CAAC,UA  
AU,OAAV,CAAL,C;UACI,WAAy,aAAI,OAAQ,IAAZ,EAAiB,OAAQ,MAAzB,C;;;MAGpB,OAAO,W;K;2FAG  
X,yB;MAAA,wE;MAAA,uC;QAOW,kBAAY,oB;QafH,Q;QAAA,OApJoE,iBAAQ,W;QAoJ5F,OAAgB,cAAhB,  
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AQ,MAAzB,C;;;QAapB,OAVO,W;O;KAGX,C;IAUA,0B;MAQqB,IAAN,I;MADX,IAAI,oCAAJ,C;QACW,QAA  
M,cAAN,C;eACH,C;YAAK,iB;YAAL,K;eACA,C;YAAK,aAAU,8BAAJ,GAaKB,sBAAK,CAAL,CAAlB,GAA+  
B,oBAAW,OAAd,C;YAAL,K;;YACQ,0BAAM,qBAAoB,YAAY,cAAZ,CAApB,CAAN,C;YAhL,K;;QAAP,W;;  
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IAEJ,4B;MAM6D,QAAM,gBAAN,C;aACzD,C;UADyD,OACpD,U;aACL,C;UAFyD,OAEPD,MAAM,UAAK,CA  
AL,CAAN,C;;UAFoD,OAGjD,mBAAM,qBAAoB,YAAY,gBAAZ,CAApB,CAAN,C;;K;IAGZ,yC;MAIwB,OAAP  
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wB,SAApB,WAAoB,Y;MAApB,kB;K;IAEJ,4B;MAMqD,QAAM,cAAN,C;aACjD,C;UADiD,OAC5C,U;aACL,C;  
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BAApB,qBAAC,SAAd,C;MAA4B,+B;MAA5B,OUpkBO,W;K;0FVukBX,2B;MAKI,sBAAI,IAAK,MAAT,EAAg  
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O;KALJ,C;4FAQA,0B;MAKI,yBAAO,GAAP,C;K;IAGJ,kC;MAOWB,kBAAf,aAAL,SAAK,C;MASCL,6B;MATC  
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MARCV,OAAGD,oBUhoBzC,WVgoByC,C;K;IAEPD,mC;MAQwB,kBAAf,aAAL,SAAK,C;MAoCK,YAAL,gBA  
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L,gBAAK,O;MANCV,OAAGD,oBUppBzC,WVopByC,C;K;4FAEPD,0B;MAMI,uBAAO,GAAP,C;K;8FAGJ,yB;  
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B,OAA2D,CAA9B,sEAA8B,oBAAU,QAAV,C;O;KAT/D,C;wFAWA,yB;MAAA,8D;MAAA,8B;MAAA,sC;QASi  
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C;K;4FAGT,yB;MAAA,gD;MAAA,sC;QAKS,OAAL,SAAK,EAAO,QAAP,C;O;KALT,C;4FAQA,yB;MAAA,gD;  
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U,QAAV,C;O;KALT,C;8FAQA,yB;MAAA,sD;MAAA,sC;QAKS,UAAAL,SAAK,EAAU,QAAV,C;O;KALT,C;IA  
QA,qC;MAIU,IAIe,I;MAHjB,kBADE,QACF,c;QAAiB,OAAO,yBAAO,QAAP,C;;QAEpB,aAAsB,K;QACT,0B;Q  
AAb,OAAa,cAAb,C;UAAa,sB;UACT,IAAI,oBAAI,IAAJ,CAAJ,C;YAAe,SAAS,I;;QAC5B,OAAO,M;;K;IAKnB,  
uC;MAKiB,Q;MADb,aAAsB,K;MACT,0B;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,IAAI,oBAAI,IAAJ,CAAJ,C;  
UAAe,SAAS,I;;MAE5B,OAAO,M;K;IAGX,uC;MAII,OAAO,yBAAgB,OAAT,QAAS,CAAhB,C;K;IAGX,0C;MA  
IW,iBAAmB,gCAAT,QAAS,EAAgC,SAAhC,C;MAIHG,Q;MAkH7B,OAIH2D,CAA9B,sEAA8B,oBAAU,UAAV,  
C;K;IAqH/D,0C;MAII,UAAmB,8BAAT,QAAS,C;MACnB,09K0EwD,C8K1EjD,G9K0EkD,U8K1EID,IAAoB,4B  
AAU,GAAV,C;K;IAG/B,0C;MAII,OpLqoPO,EoLroPA,QpL6jPA,YAAQ,CAwER,CoLroPA,IAAyB,4BAAmB,8B  
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oLvnPP,C;QACI,OAAO,4BAAmB,8BAAT,QAAS,CAAnB,C;;QAEp,OAAO,wB;K;IAGf,0C;MAII,UAAmB,8BA  
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AO,wB;K;IAGf,kC;MACI,a9KmCwD,CAAC,mB;M8K1CzD,iB;MACA,OAAO,M;K;IAIX,2C;MAKkF,gCAAc,S  
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C;MnKlJgB,kBmKmJX,oB;MACD,OAAO,qBAAP,C;QACI,IAAI,UAAU,kBAAV,6BAAJ,C;UACI,oB;UACA,W  
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E9E,wE;MAEgB,UAGS,MAHT,EAcY,MAZ,EAc6B,M;MAfzC,IAAI,uCAAJ,C;QACI,OAAoC,cAA5B,sEAA4B,  
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K,UAAAL,EAAMb,OAAnB,C;QAEJ,+B;;MAEJ,IAAI,aAAa,cAAjB,C;QACwB,oC;QAAiB,mB;QAARc,oE;UACI,  
2BAAS,WAAT,C;QAEJ,OAAO,I;;QAEp,OAAO,K;;K;IChS+B,wC;MAAkC,uB;MAAjC,0B;K;4FACpB,Y;MAA  
Q,OAAA,eAAS,K;K;iDACxC,iB;MAAkC,mCAAS,0BAAoB,KAApB,CAAT,C;K;;IAGT,gC;MAAyC,8B;MAAx  
C,0B;K;oFACH,Y;MAAQ,OAAA,eAAS,K;K;yCACxC,iB;MAAkC,mCAAS,0BAAoB,KAApB,CAAT,C;K;mCA  
EIC,Y;MAAuB,eAAS,Q;K;8CACHC,iB;MAAuC,OAAA,eAAS,kBAAS,0BAAoB,KAApB,CAAT,C;K;yCAEHd,0  
B;MAA8C,OAAA,eAAS,aAAI,0BAAoB,KAApB,CAAJ,EAAgC,OAAhC,C;K;yCACvD,0B;MACI,eAAS,aAAI,2  
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B,I;;QAAkB,MAAM,8BAA0B,oBAAiB,KAAjB,2BAA2C,gBAAG,cAAH,CAA3C,OAA1B,C;K;IAGID,+B;MAK+  
C,gCAAqB,SAArB,C;K;IAE/C,iC;MAM6D,wBAAa,SAAb,C;K;;IxKpC7D,oD;MAQuF,wC;K;IARvF,8CASI,Y;  
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AT,C;K;8FAErG,yB;MAAA,kD;MzKdA,kC;MAAA,0C;MAAA,kD;QAQuF,wC;O;MARvF,4CASI,Y;QAAuC,8B;  
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1B,OAAO,Q;K;8FAGX,yB;MAAA,kD;MAAA,gC;QAGkI,gBAAS,aAAT,C;O;KAHII,C;IAGB0C,yB;K;+CAoBtC,  
kC;MAOI,IAAI,uCAA0B,QAAS,UAAvC,C;QAAkD,M;MACID,OAAO,sBAAS,QAAS,WAAIB,e;K;+CAGX,kC;  
MAQqD,6BAAS,QAAS,WAAIB,e;K;;IAezD,mC;MAA2C,wB;MACvC,eAAoB,C;MACpB,mBAA4B,I;MAC  
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,QAAM,YAAN,C;aACI,C;aAAA,C;UAAsC,OAAO,qB;aAC7C,C;UACI,eAAQ,C;UACR,OAAO,kCAAe,O;aAE1

B,C;UACI,eAAQ,C;UACR,aACa,mF;UACb,mBAAY,I;UACZ,OAAO,M;;UAEH,MAAM,yB;;K;uDAlTB,Y;MACI  
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C;UADwC,OAC1B,6B;aACd,C;UAFwC,OAExB,6BAAsB,sBAAtB,C;;UAFwB,OAGhC,6BAAsB,uCAAoC,YAA  
ID,C;;K;IAOqC,4E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;oDALR,+B;MACI,mBAAY,K;MACZ  
,eAAQ,C;MACR,OAA6C,0CAAtC,c;K;IAUsC,+E;MAAA,oB;QACzC,wCAAW,C;QAAX,OACA,yB;O;K;yDAN  
R,kC;MACI,IAAI,CAAC,QAAS,UAAAd,C;QAAYB,M;MACzB,sBAAE,Q;MACf,eAAQ,C;MACR,OAA6C,6CAAt  
C,c;K;2DAMX,kB;M1HjBO,Q;MADP,e0HoBI,M1HpBJ,C;MACO,Q0HmBH,M1HnBG,+D;M0HoBH,eAAQ,C;K  
;kGAIR,Y;MAAQ,0C;K;;IzK1LhB,oD;MAQuF,wC;K;IARvF,8CASI,Y;MAAuC,8B;K;IAT3C,gF;sFAAA,yB;MA  
AA,kC;MAAA,0C;MAAA,kD;QAQuF,wC;O;MARvF,4CASI,Y;QAAuC,8B;O;MAT3C,8E;MAAA,2B;QAQuF,2  
C;O;KARvF,C;IAiBgE,+C;MAAA,mB;QAAE,sB;O;K;IALIE,kC;MAKuD,OAAkB,2CAAT,+BAAS,E;K;IAEzE,8  
B;MAK6D,OAAI,Qb2rPtD,YAAQ,Ca3rP0C,GAAwB,eAAxB,GAAuD,WAAT,QAAS,C;K;IAEnH,yB;MAG8C,kC  
;K;IAE9C,yB;MAAA,6B;K;uCACI,Y;MAA6C,kC;K;2CAC7C,a;MAA4B,kC;K;2CAC5B,a;MAA4B,kC;K;;IAHh  
C,qC;MAAA,oC;QAAA,mB;;MAAA,6B;K;oFAMA,yB;MAAA,2D;MAAA,4B;QAM4D,uCAAQ,e;O;KANpE,C;I  
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A,Q;;gBAEA,gB;gCAAA,sCAAS,iCAAT,O;oBAAA,2C;yBAAA,yB;gBAAA,Q;;;cAJJ,W;;cAAA,W;;;K;IADwF,gE;MAAA,yD;uBAAA,uG;YAAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAP5F,4C;MAOmF,gBAAS,uCAAT,  
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B,EAAiC,QAAjC,C;K;IAGX,4B;MAYiB,Q;MAFb,YAAY,gB;MACZ,YAAY,gB;MACC,2B;MAAb,OAAa,cAAb,  
C;QAAA,sB;QACT,KAAM,WAAL,IAAK,MAAT,C;QACN,KAAM,WAAL,IAAK,OAAT,C;;MAEV,OAAO,UAA  
S,KAAT,C;K;IAGX,+B;MAQqD,6BAAS,4BAAT,C;K;IAW0B,+G;MAAA,wC;MAAA,6B;MAAA,yB;MAAA,0C;  
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C;gBAAA,gB;;;cACI,QAAQ,yBAAO,iBAAQ,iBAAO,KAAf,C;cACf,WAakB,WAAP,iBAAO,C;cACIB,YAAgB,  
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AAN,O;kBAAA,2C;uBAAA,yB;cAAA,Q;;cAJJ,gB;;cAMJ,W;;;K;IAR+E,4D;MAAA,yD;uBAAA,mG;Y  
AAA,S;iBAAA,Q;;iBAAA,uB;O;K;IAT/E,uC;MASmE,gBAAY,kCAAZ,C;K;IAkBhC,0D;MAE/B,wB;QAAA,WA  
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E;MACrB,gBAAmB,I;K;oEAEnB,Y;MACI,OAAO,aAAS,UAAhB,C;QACI,WAAW,aAAS,O;QACpB,IAAI,wCA  
AU,IAAV,MAAmB,sCAAvB,C;UACI,gBAAW,I;UACX,iBAAY,C;UACZ,M;;MAGR,iBAAY,C;K;8DAGhB,Y;  
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Aa,a;MACb,gBAAW,I;MACX,iBAAY,E;MAEZ,OAAO,yE;K;iEAGX,Y;MACI,IAAI,mBAAa,EAAjB,C;QACI,iB  
;MACJ,OAAO,mBAAa,C;K;;2CAhC5B,Y;MAAuC,yD;K;;IA2C3C,qD;MAAY,0B;MAAmC,gC;K;IACJ,gF;MAA  
A,0D;MACnC,gBAAE,oCAAS,W;K;iEACxB,Y;MACI,OAAO,6CAAY,aAAS,OAAR,B;K;oEAGX,Y;MACI,OA  
AO,aAAS,U;K;;8CAPxB,Y;MAAuC,4D;K;qDAWvC,oB;MACI,OAAO,uBAA4B,eAA5B,EAA5C,kBAAtC,EAA  
mD,QAAnD,C;K;;IAUf,4D;MAAY,0B;MAAmC,gC;K;IACJ,8F;MAAA,wE;MACnC,gBAAE,2CAAS,W;MACxB,  
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mB,iBAAnB,EAAMB,yBAAnB,QAAb,EAA0C,aAAS,OAAnD,C;K;gEAGX,Y;MACI,OAAO,aAAS,U;K;;0CARx  
B,Y;MAAQd,wD;K;;IAMbZD,0D;MACI,4B;MACA,4B;MACA,4B;K;IAEuC,sE;MAAA,gD;MACnC,iBAAgB,gC  
AAU,W;MAC1B,iBAAgB,gCAAU,W;K;4DAC1B,Y;MACI,OAAO,sCAAU,cAAU,OAAPB,EAA4B,cAAU,OAAt  
C,C;K;+DAGX,Y;MACI,OAAO,cAAU,UAAV,IAAuB,cAAU,U;K;;yCARhD,Y;MAAuC,uD;K;;Iac3C,6D;MACI,  
0B;MACA,gC;MACA,0B;K;IAEuC,4E;MAAA,sD;MACnC,gBAAE,kCAAS,W;MACxB,oBAAiC,I;K;+DAEjC,Y;  
MACI,IAAI,CAAC,2BAAL,C;QACI,MAAM,6B;MACV,OAAO,gCAAE,O;K;kEAG1B,Y;MACI,OAAO,2B;K;+E  
AGX,Y;MACQ,Q;MAAJ,IAAI,iEAA2B,KAA/B,C;QACI,oBAAE,I;MAEnB,OAAO,yBAAP,C;QACI,IAAI,CAAC  
,aAAS,UAAAd,C;UACI,OAAO,K;;UAEP,cAAc,aAAS,O;UACvB,uBAAuB,wCAAS,2CAAY,OAAZ,CAAT,C;UA



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,kC;K;;;yDAAA,Y;;;;kBAGyC,I;CAFIC,C;cACI,sD;cAAhB,gB;;;;cAAA,KAAgB,yBAAhB,C;gBAAA,gB;;;;cA  
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7TvE,MAAM,gCAAYB,OAAQ,WAAjC,C;;MAFV,IAAI,EDgUQ,mBAAY,CChUpB,CAAJ,C;QACI,gBD+TyB,6  
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ACxB,gBAaE,C;K;0DAEf,Y;MAEI,OAAO,gBAAW,kCAAX,IAAYB,aAAS,UAAzC,C;QACI,aAAS,O;QACT,qC;  
;K;2DAIR,Y;MACI,a;MACA,OAAQ,gBAAW,gCAAZ,IAAYB,aAAS,U;K;wDAG7C,Y;MACI,a;MACA,IAAI,iBA  
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;QC7WtB,MAAM,gCAAYB,OAAQ,WAAjC,C;;K;0CDgXV,a;MAAYC,OAAI,KAAK,YAAT,GAAgB,eAAhB,GA  
AqC,gBAAY,eAAZ,EAAaB,CAAtB,EAYB,YAAzB,C;K;0CAC9E,a;MAAYC,OAAI,KAAK,YAAT,GAAgB,IAA  
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EAAyB,SAAzB,C;MAEA,OAAO,sBAmGmC,CAnG5B,iBAmG6B,GAnGV,KAmGU,IAAD,IAAa,eAnGhD,4D;K;kCAGX,Y;MAAe,qBAAQ,e;K;IAEgB,4D;MAAA,sC;MAAS,2B;MAC5C,eAAoB,oB;MACpB,eAAoB,4B;K;8D AEpB,Y;MAKgB,Q;MAJZ,IAAI,iBAAS,CAAb,C;QACI,W;;QAGA,mBAAQ,sCAAO,YAAP,4DAAR,C;QACA,e AoFkC,CAPf1B,YAoF2B,GAPfB,CAoFa,IAAD,IAAa,+B;QANf/C,mC;;K;;oCAXZ,Y;MAAuC,kD;K;2CagBvC,i B;MAGIE,UAQ1C,MAROC,EAe1C,MAf0C,EAqBtD,M;MatBP,aACQ,KAAM,OAAN,GAAa,IAAK,KAAtB,GA AkC,UAAN,KAAM,EAAO,IAAK,KAAZ,CAAIC,GAAyD,kD;MAE7D,WAAW,IAAK,K;MAEhB,WAAW,C;MA CX,UAAU,iB;MAEV,OAAO,OAAO,IAAP,IAAe,MAAM,eAA5B,C;QACI,OAAO,IAAP,IAAe,wBAAO,GAAP,g E;QACf,mB;QACA,iB;;MAGJ,MAAM,C;MACN,OAAO,OAAO,IAAd,C;QACI,OAAO,IAAP,IAAe,wBAAO,GA AP,gE;QACf,mB;QACA,iB;;MAEJ,IAAI,MAAO,OAAP,GAAC,IAAK,KAAvB,C;QAA6B,OAAO,IAAK,KAAZ,I AAOB,I;MAEjD,OAAO,uD;K;mCAGX,Y;MACI,OAAO,qBAAQ,gBAAa,SAAb,OAAR,C;K;4CAGX,uB;MAKI,k BAAoD,eAAjC,mBAAy,mBAAa,CAAZB,IAA8B,CAA9B,IAAiC,EAAa,WAAb,C;MACpD,gBAAoB,sBAAC,CA AlB,GAA4B,UAAP,aAAO,EAAO,WAAP,CAA5B,GAAqD,qBAAQ,gBAAa,WAAb,OAAR,C;MACrE,OAAO,eA AW,SAAX,EAA5B,SAAtB,C;K;qCAGX,mB;MAII,IAAI,aAAJ,C;QACI,MAAM,6BAAsB,qBAAtB,C;;MAGV,cA 6B0C,CA7BnC,iBA6BoC,GA7BjB,SA6BiB,IAAD,IAAa,eA7BvD,IAAmC,O;MACnC,6B;K;+CAGJ,a;MzKhJA,I AAI,EyKoJQ,KAAK,CzKpJb,CAAJ,C;QACI,cyKmJkB,wC;QzKIJIB,MAAM,gCAAyB,OAAQ,WAAjC,C;;MAFV ,IAAI,EyKqJQ,KAAK,SzKrJb,CAAJ,C;QACI,gByKoJqB,wEAA8D,S;QzKnJnF,MAAM,gCAAyB,SAAQ,WAAjC ,C;;MyKqJN,IAAI,IAAI,CAAR,C;QACI,YAAY,iB;QACZ,UAGbS,C,AhB5B,KAgB6B,GAhBf,CagBe,IAAD,IA Aa,e;QAdnD,IAAI,QAAQ,GAAZ,C;UACW,OAAP,aAAO,EAAK,IAAL,EAAW,KAAx,EAakB,eAAIB,C;UACA, OAAP,aAAO,EAAK,IAAL,EAAW,CAAX,EAAC,GAAd,C;;UAEA,OAAP,aAAO,EAAK,IAAL,EAAW,KAAx,E AakB,GAAIB,C;;QAGX,oBAAa,G;QACb,wBAAQ,CAAR,I;;K;qCAKR,wB;MAC8C,QAAC,YAAO,CAAP,IAA D,IAAa,e;K;;IA9G3D,0C;MAAA,oD;MAA6B,uBAAK,gBAAmB,QAAnB,OAAL,EAAMC,CAAnC,C;MAA7B,Y; K;ICvFJ,0C;MAII,QAAQ,I;MACR,QAAQ,K;MACR,YAAY,kBAAM,CAAC,OAAO,KAAP,IAAD,IAAiB,CAAjB ,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QACI,OtL+B4E,0BsL/BrE,kBAAM,CAAN,CtL0Q2B,KAAL,GAAiB,G A308B,EsL/B1D,KtL0QgB,KAAL,GAAiB,GA308B,CsL/BrE,IAAP,C;UACI,a;;QACJ,OtL6B4E,0BsL7BrE,kBA AM,CAAN,CtLwQ2B,KAAL,GAAiB,GA308B,EsL7B1D,KtLwQgB,KAAL,GAAiB,GA308B,CsL7BrE,IAAP,C; UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,CAAN,EAAW,kBAAM, CAAN,CAAX,C;UACA,kBAAM,CAAN,EAAW,GAAX,C;UACA,a;UACA,a;;MAGR,OAAO,C;K;IAGX,uC;MA GI,YAAY,aAAU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,CAAR,IAAP,CAAJ,C;Q ACI,UAAU,KAAV,EAAiB,IAAjB,EAAuB,QAAQ,CAAR,IAAvB,C;MACJ,IAAI,QAAQ,KAAZ,C;QACI,UAAU, KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;K;IAGR,0C;MAII,QAAQ,I;MACR,QAAQ,K;MACR,YAAY,kBAAM ,CAAC,OAAO,KAAP,IAAD,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QACI,OpLM6E,0BoLNtE, kBAAM,CAAN,CpL0O2B,KAAL,GAAiB,KApO+B,EoLN3D,KpL0OgB,KAAL,GAAiB,KApO+B,CoLNtE,IAAP ,C;UACI,a;;QACJ,OpLI6E,0BoLJtE,kBAAM,CAAN,CpLwO2B,KAAL,GAAiB,KApO+B,EoLJ3D,KpLwOgB,KA AL,GAAiB,KApO+B,CoLJtE,IAAP,C;UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;U ACV,kBAAM,CAAN,EAAW,kBAAM,CAAN,CAAX,C;UACA,kBAAM,CAAN,EAAW,GAAX,C;UACA,a;UAC A,a;;MAGR,OAAO,C;K;IAGX,yC;MAGI,YAAY,aAAU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI, QAAO,QAAQ,CAAR,IAAP,CAAJ,C;QACI,YAAU,KAAV,EAAiB,IAAjB,EAAuB,QAAQ,CAAR,IAAvB,C;MA CJ,IAAI,QAAQ,KAAZ,C;QACI,YAAU,KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;K;IAGR,0C;MAII,QAAQ,I; MACR,QAAQ,K;MACR,YAAY,kBAAM,CAAC,OAAO,KAAP,IAAD,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,K AAK,CAAZ,C;QACI,OrLnB8D,YqLmBvD,kBAAM,CAAN,CrLnBwE,KAAjB,EqLmB5C,KrLnByE,KAA7B,CqL mBvD,IAAP,C;UACI,a;;QACJ,OrLrB8D,YqLqBvD,kBAAM,CAAN,CrLrBwE,KAAjB,EqLqB5C,KrLrByE,KAA 7B,CqLqBvD,IAAP,C;UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,C AAN,EAAW,kBAAM,CAAN,CAAX,C;UACA,kBAAM,CAAN,EAAW,GAAX,C;UACA,a;UACA,a;;MAGR,OA AO,C;K;IAGX,yC;MAGI,YAAY,aAAU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,C AAR,IAAP,CAAJ,C;QACI,YAAU,KAAV,EAAiB,IAAjB,EAAuB,QAAQ,CAAR,IAAvB,C;MACJ,IAAI,QAAQ,K AAZ,C;QACI,YAAU,KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;K;IAGR,0C;MAII,QAAQ,I;MACR,QAAQ,K;M ACR,YAAY,kBAAM,CAAC,OAAO,KAAP,IAAD,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QAC I,OrK5C+D,aqK4CxD,kBAAM,CAAN,CrK5C0E,KAAIB,EqK4C7C,KrK5C2E,KAA9B,CqK4CxD,IAAP,C;UACI

,a;;QACJ,OrK9C+D,aqK8CxD,kBAAM,CAAN,CrK9C0E,KAA1B,EqK8C7C,KrK9C2E,KAA9B,CqK8CxD,IAAP,  
C;UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,CAAN,EAAW,kBAA  
M,CAAN,CAAX,C;UACA,kBAAM,CAAN,EAAW,GAAX,C;UACA,a;UACA,a;;MAGR,OAAO,C;K;IAGX,yC;  
MAGI,YAAy,aAAU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,CAAR,IAAP,CAAJ,  
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AU,KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;K;IAKR,gD;MAI6E,UAAU,KAAV,EAAiB,SAAjB,EAA4B,UAA  
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7E,gD;MAC6E,YAAU,KAAV,EAAiB,SAAjB,EAA4B,UAAU,CAAV,IAA5B,C;K;IAC7E,gD;MAC6E,YAAU,K  
AAV,EAAiB,SAAjB,EAA4B,UAAU,CAAV,IAA5B,C;K;IxK9I7E,0C;MF0BI,IAAI,EEjBI,SAAU,OAAV,GAAiB,  
CFiBrB,CAAJ,C;QACI,cAda,qB;QAeb,MAAM,gCAAYB,OAAQ,WAAjC,C;;MEIBV,OAAO,oBAAoB,CAApB,E  
AAuB,CAAvB,EAA0B,SAA1B,C;K;IAGX,8C;MACe,Q;MAAX,wBAAW,SAAX,gB;QAAW,SAAS,SAAX,M;Q  
ACI,SAAS,GAAG,CAAH,C;QACT,SAAS,GAAG,CAAH,C;QACT,WAAW,cAAc,EAAd,EAakB,EAAlB,C;QAC  
X,IAAI,SAAQ,CAAZ,C;UAAe,OAAO,I;;MAE1B,OAAO,C;K;sGAGX,yB;MAAA,8D;MAAA,iC;QASI,OAAO,c  
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A1B,C;O;K;IAVhC,8B;MF7CI,IAAI,EEsDI,SAAU,OAAV,GAAiB,CfIdrB,CAAJ,C;QACI,cAda,qB;QAeb,MAA  
M,gCAAYB,OAAQ,WAAjC,C;;MEqDV,OAAO,eAAW,2BAAX,C;K;0FAIX,yB;MAAA,sC;MAAA,oC;MAAA,u  
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AAA,oC;MAQe,gE;QAAA,uB;UAAU,iBAAsB,kB;UAAAtB,eAAkC,gB;UAAIC,OA1Dd,UAAW,SAAQ,SA0DW,C  
A1DX,CAAR,EAAqB,SA0DC,CA1DD,CAArB,C;S;O;MAkDtB,uC;QAQI,sBAAW,sCAAX,C;O;KARJ,C;4GAU  
A,yB;MAAA,sC;MAAA,oC;MAAA,iCAOe,yB;QAxFf,8D;eAwFe,4B;UAAA,uB;YAAU,eAAsB,gB;YAAAtB,OA/  
Ed,cAAc,SA+EGb,CA/EhB,CAAd,EAA2B,SA+EM,CA/EN,CAA3B,C;W;S;OA+EI,C;MAPf,2B;QAOI,sBAAW,o  
CAAX,C;O;KAPJ,C;8GASA,yB;MAAA,oC;MAUe,0E;QAAA,uB;UAAU,iBAAsB,kB;UAAAtB,eAAkC,gB;UAAIC  
,OA/Ed,UAAW,SAAQ,SA+EW,CA/EX,CAAR,EAAqB,SA+EC,CA/ED,CAArB,C;S;O;MAqEtB,uC;QAUI,sBAA  
W,gDAAX,C;O;KAVJ,C;kFAYA,yB;MAAA,sC;MAAA,oC;MAAA,oBAQe,yB;QA9Gf,8D;eA8Ge,yC;UAAA,uB;  
YACP,sBAAsB,WAAy,SAAQ,CAAR,EAAW,CAAX,C;YACIC,Q;YAAA,IAAI,oBAAmB,CAAvB,C;cAAA,OA  
A0B,e;;cAAqB,eAAsB,gB;cAArE,OA vGG,cAAc,SAuG8C,CAvG9C,CAAd,EAA2B,SAuGoC,CAvGpC,CAA3B,  
C;;YAsGH,W;W;S;OADO,C;MARf,sC;QAQI,sBAAW,kCAAX,C;O;KARJ,C;oFAaA,yB;MAAA,oC;MAQe,0E;Q  
AAA,uB;UACP,sBAAsB,WAAy,SAAQ,CAAR,EAAW,CAAX,C;UACIC,Q;UAAA,IAAI,oBAAmB,CAAvB,C;Y  
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AR,EAAqB,SAwG+B,CAXG/B,CAArB,C;;UAAuGd,W;S;O;MATR,kD;QAQI,sBAAW,8CAAX,C;O;KARJ,C;sGaa  
A,yB;MAAA,sC;MAAA,oC;MAAA,8BAQe,yB;QAxIf,8D;eAwIe,mD;UAAA,uB;YACP,sBAAsB,qBAAsB,SAA  
Q,CAAR,EAAW,CAAX,C;YAC5C,Q;YAAA,IAAI,oBAAmB,CAAvB,C;cAAA,OAA0B,e;;cAAqB,eAAsB,gB;cA  
ArE,OAjIG,cAAc,SAiI8C,CAjI9C,CAAd,EAA2B,SAiIoC,CAjIpC,CAA3B,C;;YAgIH,W;W;S;OADO,C;MARf,sC  
;QAQI,sBAAW,4CAAX,C;O;KARJ,C;wGaaA,yB;MAAA,oC;MAQe,8F;QAAA,uB;UACP,sBAAsB,qBAAsB,SA  
AQ,CAAR,EAAW,CAAX,C;UAC5C,Q;UAAA,IAAI,oBAAmB,CAAvB,C;YAAA,OAA0B,e;;YAAqB,iBAAsB,k  
B;YAAAtB,eAAkC,gB;YAAjF,OAIIG,UAAW,SAAQ,SAkIyC,CAIIZC,CAAR,EAAqB,SAkI+B,CAII/B,CAArB,C;;  
UAAId,W;S;O;MATR,kD;QAQI,sBAAW,wDAAX,C;O;KARJ,C;kGAcA,yB;MAAA,oC;MAOe,wE;QAAA,uB;UA  
CP,sBAAsB,mBAAoB,SAAQ,CAAR,EAAW,CAAX,C;UAA1C,OACI,oBAAmB,CAAvB,GAA0B,eAA1B,GAA+  
C,mBAAW,CAAX,EAAC,CAAd,C;S;O;MATvD,wC;QAOI,sBAAW,4CAAX,C;O;KAPJ,C;IAmBe,oD;MAAA,uB  
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+C,kBAAW,SAAQ,CAAR,EAAW,CAAX,C;O;K;IATIE,uC;MAOI,sBAAW,kCAAX,C;K;IAYc,wE;MAAA,uB;Q  
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A+C,kBAAW,SAAQ,CAAR,EAAW,CAAX,C;O;K;IATIE,+C;MAOI,sBAAc,4CAAd,C;K;IAaW,+C;MAAA,uB;Q  
AEH,UAAAM,CAAN,C;UADJ,OACe,C;aACX,c;UAFJ,OAEiB,E;aACb,c;UAHJ,OAGiB,C;;UAHjB,OAIY,kBAA

W,SAAQ,CAAR,EAAW,CAAX,C;O;K;IAZ/B,gC;MAOI,sBAAW,6BAAX,C;K;4FASJ,yB;MAAA,4D;MAAA,w  
D;MAAA,mB;QAOqE,kBAAW,cAAX,C;O;KAPrE,C;IAgBe,8C;MAAA,uB;QAEH,UAAM,CAAN,C;UADJ,OAC  
e,C;aACX,c;UAFJ,OAEiB,C;aACb,c;UAHJ,OAGiB,E;;UAHjB,OAIY,kBAAW,SAAQ,CAAR,EAAW,CAAX,C;O  
;K;IAZ/B,+B;MAOI,sBAAW,4BAAX,C;K;0FASJ,yB;MAAA,4D;MAAA,sD;MAAA,mB;QAOoE,iBAAU,cAAV,  
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gC;MAM+D,IAEJ,IAFI,EAGJ,M;MAFvD,kBAD2D,SAC3D,sB;QADqD,OAC5B,SAAK,W;WAC9B,WAF2D,SA  
E3D,wC;QAFqD,OAEe,4F;WACvD,WAH2D,SAG3D,wC;QAHqD,OAGE,gG;;QAHF,OAI7C,uBAAmB,SAAnB,  
C;K;IAIuB,wC;MAAC,4B;K;2CACChC,gB;MAAwC,OAAA,eAAW,SAAQ,CAAR,EAAW,CAAX,C;K;4CACnD,Y  
;MACgC,sB;K;;IAGpC,kC;MAAA,sC;K;+CACI,gB;MAAoE,OAAE,iBAAF,CAAE,EAAU,CAAV,C;K;gDACtE,  
Y;MAC8C,2C;K;;IAHID,8C;MAAA,6C;QAAA,4B;;MAAA,sC;K;IAMA,kC;MAAA,sC;K;+CACI,gB;MAAoE,O  
AAE,iBAAF,CAAE,EAAU,CAAV,C;K;gDACtE,Y;MAC8C,2C;K;;IAHID,8C;MAAA,6C;QAAA,4B;;MAAA,sC;  
K;8EyKjTA,4B;MAUI,OAAK,iBAAL,SAAK,EAAU,KAAV,C;K;ICTT,iC;K;;;oDayDI,0C;MAiB+D,oB;QAAA,  
2C;aAjB/D,kG;K;;IAoBJ,uC;MAAA,e;MAAA,iB;MAAA,uB;K;IAAA,qC;MAAA,wC;O;MASI,4E;MAMA,8E;M  
AOA,4E;MAOA,kE;K;;IApBA,mD;MAAA,2B;MAAA,2C;K;;IAMA,oD;MAAA,2B;MAAA,4C;K;;IAOA,mD;M  
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UAAA,gD;aAAA,e;UAAA,iD;aAAA,c;UAAA,gD;aAAA,S;UAAA,2C;;UAAA,oE;;K;;oFAqCA,mB;K;;;;;  
;;I7HmBiD,gD;MAAA,oB;QACzC,WAAW,sBAAmB,YAAF,CAAE,CAAnB,C;QACX,cAAM,IAAN,C;QADA,O  
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R,C;O;KANJ,C;2GAQA,yB;MAAA,4B;MDgDQ,kD;MChDR,uC;QAOI,6BDgDQ,WAAO,cChDW,SDgDX,CAAP  
,CChDR,C;O;KAPJ,C;+FAUA,yB;MAAA,kC;MAAA,mD;MAAA,yE;QASI,sC;QAAA,4C;O;MATJ,iGAWY,Y;Q  
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hC,C;K;yCAIX,Y;MACI,OAAW,cAAJ,GAAe,EAAf,GAAuB,MAAW,SAAN,UAAM,CAAX,QAAqC,SAAb,iBA  
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C;K;iDAC7E,Y;MAAkC,QAAC,8BAAiB,UAAjB,EAAwB,iBAAxB,C;K;;IAcR,gD;MAI3B,gBAAqB,K;MACrB,u  
BAA4B,Y;K;0FACD,Y;MAAQ,oB;K;iGACD,Y;MAAQ,2B;K;2DAE1C,gB;MAA+D,YAAK,C;K;mDAEpE,iB;M  
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AxB,C;K;IAQvD,+C;MAI1B,gBAAqB,K;MACrB,uBAA4B,Y;K;yFACF,Y;MAAQ,oB;K;gGACD,Y;MAAQ,2B;  
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B;K;;IAGjD,oC;MAOkF,4BAAiB,SAAjB,EAAuB,IAAvB,C;K;oFAGIF,8B;MAQI,0BAAmB,2BAAS,OAAT,C;K;  
IAGvB,+C;MACI,IAAI,CAAC,UAAAL,C;QAAiB,MAAM,gCAAyB,iCAA8B,IAA9B,iBAAzB,C;K;IC5I3B,gC;MA  
cW,Q;MADP,IAAI,CAAC,6BAAW,KAAX,CAAL,C;QAAwB,MAAM,uBAAmB,sC/EjBzC,oB+EiByC,CAAnB,C  
;;MAC9B,OAAO,sD;K;IAMX,oC;MAAkC,Q;MAA9B,OAAW,6BAAW,KAAX,CAAJ,GAAuB,sDAAvB,GAAuC,  
I;K;,,,,;ICvBhB,yC;MA2B9B,uC;MA1BA,wB;MAIA,gB;M7LQA,IAAI,E6LDS,iBAAY,IAAb,MAAuB,iBAAvB,  
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AA/B,C;K;;IArCR,iD;MAAA,gD;QAAA,+B;;MAAA,yC;K;;2CArCJ,Y;MAWI,oB;K;2CAXJ,Y;MAeI,gB;K;6CA  
fJ,0B;MAAA,2BAWI,8CAXJ,EAeI,kCAfJ,C;K;yCAAA,Y;MAAA,c;MAWI,yD;MAIA,qD;MAfJ,a;K;uCAAA,iB;  
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YI,4D;MAKA,8C;MAKA,gD;K;;IAVA,2C;MAAA,sB;MAAA,mC;K;;IAKA,oC;MAAA,sB;MAAA,4B;K;;IAKA,  
qC;MAAA,sB;MAAA,6B;K;;IAtBJ,4B;MAAA,mG;K;;IAAA,iC;MAAA,a;aAAA,W;UAAA,wC;aAAA,I;UAAA,i  
C;aAAA,K;UAAA,kC;;UAAA,6D;;K;;6ECAA,yB;MAAA,4F;MAAA,2B;QASI,MAAM,mCAA8B,0EAA9B,C;O;  
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liB,Q;MAAb,wBAAa,KAAb,gB;QAAa,WAAA,KAAb,M;QACI,yBAAO,IAAP,C;;MACJ,OAAO,S;K;mFAGX,qB  
;MAGwD,gCAA0,EAAP,C;K;qFAExD,4B;MAG4E,OAAA,yBAAO,KAAP,CALpB,gBAAO,EAAP,C;K;qFAOx  
D,4B;MAGmE,OAAA,yBAAO,KAAP,CAVX,gBAAO,EAAP,C;K;IAxD,wD;MAEQ,sB;QAAqB,yBAAO,UAA  
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Ae,SAAR,OAAQ,CAAF,C;K;IIL7EhB,+B;MAY6B,kBAAIB,QAAQ,SAAR,EAAC,EAAd,C;MACH,IX0EE,WW1E  
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;IAGX,qC;MAY6B,kBAAIB,QAAQ,SAAR,EAAC,EAAd,C;MAAP,OXmEqB,WWnEa,IAAM,CXmEjC,GAAqB,  
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AW,CAAF,C;QACI,OAAO,YAAM,SAAN,C;;MAEX,MAAM,gCAAyB,SAAM,SAAN,4BAAzB,C;K;IAGV,yC;M  
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F,C;;MAEH,IAAI,YAAO,EAAX,C;QACH,mBAAM,SAAN,C;;QAEA,0BAAM,SAAN,IAAa,EAAb,C;;MAHJ,W;  
K;IAuFJ,8B;MAWsC,+B;K;0EAEtC,4B;MAM8D,OAAK,oBAAL,SAAK,CAAL,GAAB,K;K;IAEHf,gD;MAQoC  
,0B;QAAA,aAAsB,K;MACTD,IAAI,cAAQ,KAAZ,C;QAAMB,OAAO,I;MAC1B,IAAI,CAAC,UAAAL,C;QAAiB,O  
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LzE,2BAKY,I;;UAYER,iE9LJD,yB8LIC,4B3L+sD+C,I;;QA1RpB,8B;UAA6C,6B;;;M2LpgDhF,OAIkFK,S3Lo7CE,  
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C,OAIoB,E;;UAJpB,OAoy,iBAAS,E;O;K;IAfjC,0C;MAKgC,sB;QAAA,SAAiB,M;MAC7C,OAYK,eAXA,OAD  
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a,C;MACb,aAAU,KAAV,MAAsB,MAAtB,M;QACI,YAAY,QAAQ,qBAAK,CAAL,CAAR,EAiB,KAAjB,C;QA  
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A1C,G7NxdkE,Y6NwDrB,K7NxDsC,KAAjB,E6NwDZ,I7NxDyC,KAA7B,C6NwDrB,KAA7C,G7NxDkE,Y6Nw  
DF,K7NxDmB,KAAjB,E6NwDO,I7NxDsB,KAA7B,C6NwDF,K;MACHe,c7N2RmC,S6N3RhB,I7N2RgB,C;M6N  
1RnC,cAAuB,cAAJ,GAAa,KAAb,GAAwB,mB;K;gDAE3C,Y;MAAkC,qB;K;iDAEIC,Y;MACI,YAAAY,W;MACZ,  
IAAI,6BAAS,mBAAT,QAAJ,C;QACI,IAAI,CAAC,cAAL,C;UAAc,MAAa,6B;QAC3B,iBAAU,K;;QAEV,c7NID6  
C,S6NkD7C,W7NIDuD,KAAK,G6NkDpD,W7NID+D,KAAAX,IAAf,C;;M6NoDjD,OAAO,K;K;;IC3Hf,yB;K;mCA  
II,Y;MAA4B,uB;K;;IAMhC,0B;K;oCAII,Y;MAA4B,wB;K;;IAMhC,wB;K;kCAII,Y;MAA4B,sB;K;;IAMhC,yB;K;  
mCAII,Y;MAA4B,uB;K;;I9M5BP,qB;MAErB,6B;MAFwD,gB;K;IAExD,2B;MAAA,+B;MACI,iBAGoC,a;MAEp  
C,iBAGoC,c;MAEpC,kBAGmC,C;MAEnC,iBAGkC,E;K;;IANbtC,uC;MAAA,sC;QAAA,qB;;MAAA,+B;K;sGAs  
BA,yB;MjBqRA,WAS6D,wB;MAT7D,+B;MiB7PA,gD;MAxBA,wB;QAM0D,OAYBS,aAAa,IAAK,KAAIB,EAA  
8B,CjB+P5D,eAAW,oBiBxRyB,KjBwR9B,KAAK,CAAL,UAAAN,CiB/P4D,MAA9B,C;O;KA/BnE,C;sGAQA,yB;  
Mf8QA,aAS6D,0B;MAT7D,+B;Me9PA,gD;MAhBA,wB;QAM2D,OAIbQ,aAAa,IAAK,KAAIB,EAA8B,CfgQ5D,  
eAAW,oBejR0B,Kfir/B,KAAK,CAAL,YAAN,CehQ4D,MAA9B,C;O;KAvBnE,C;sGAQA,yB;MhByRA,kBAS6D  
,sB;MAT7D,+B;MgBjRA,gD;MARA,wB;QAMyD,OASU,aAAa,IAAK,KAAIB,EAA8B,ChBmR5D,eAAW,oBgB5  
RwB,KhB4R7B,KAAK,CAAL,iBAAN,CgBnR4D,MAA9B,C;O;KAFnE,C;kGAQA,yB;MAAA,gD;MAAA,wB;Q  
AOmE,oBAAa,IAAK,KAAIB,EAAwB,KAAM,KAA9B,C;O;KAPnE,C;4FASA,yB;MjBoPA,WAS6D,wB;MAT7D

,+B;MiBpPA,wB;QAEuD,OASA,eAAM,IAAK,KAAK,KAAW,CjBkP7C,eAAW,oBiB3PiB,KjB2PtB,KAAK,CAA  
L,UAAN,CiBIP6C,MAAX,CAAhB,C;O;KAXvD,C;4FAGA,yB;MfkPA,aAS6D,0B;MAT7D,+B;MelPA,wB;QAE  
wD,OAMD,eAAM,IAAK,KAAK,KAAW,CfmP7C,eAAW,oBezPkb,KfyPvB,KAAK,CAAL,YAAN,CenP6C,MA  
AX,CAAhB,C;O;KARvD,C;4FAGA,yB;MhBkQA,kBAS6D,sB;MAT7D,+B;MgBIQA,wB;QAEsD,OAGC,eAAM,  
IAAK,KAAK,KAAW,ChBsQ7C,eAAW,oBgBzQgB,KhByQrB,KAAK,CAAL,iBAAN,CgBtQ6C,MAAX,CAAhB,  
C;O;KALvD,C;4FAGA,yB;MAAA,+B;MAAA,wB;QAEuD,sBAAM,IAAK,KAAK,KAAK,KAAM,KAAX,CAAh  
B,C;O;KAFvD,C;8FAIA,yB;MjBuOA,WAS6D,wB;MAT7D,+B;MiBvOA,wB;QAEwD,OASA,eAAM,IAAK,KAA  
K,UAAy,CjBqO/C,eAAW,oBiB9OmB,KjB8OxB,KAAK,CAAL,UAAN,CiBrO+C,MAAZ,CAAhB,C;O;KAXxD,  
C;8FAGA,yB;MfqOA,aAS6D,0B;MAT7D,+B;MerOA,wB;QAEyD,OAMD,eAAM,IAAK,KAAK,UAAy,CfsO/C,e  
AAW,oBe5OoB,Kf4OzB,KAAK,CAAL,YAAN,CetO+C,MAAZ,CAAhB,C;O;KARxD,C;8FAGA,yB;MhBqPA,kB  
AS6D,sB;MAT7D,+B;MgBrPA,wB;QAEuD,OAGC,eAAM,IAAK,KAAK,UAAy,ChByP/C,eAAW,oBgB5PkB,Kh  
B4PvB,KAAK,CAAL,iBAAN,CgBzP+C,MAAZ,CAAhB,C;O;KALxD,C;8FAGA,yB;MAAA,+B;MAAA,wB;QA  
EwD,sBAAM,IAAK,KAAK,UAAy,KAAM,KAAX,CAAhB,C;O;KAFxD,C;8FAIA,yB;MjB0NA,WAS6D,wB;M  
AT7D,+B;MiB1NA,wB;QAEwD,OASA,eAAM,IAAK,KAAK,UAAy,CjBwN/C,eAAW,oBiBjOmB,KjBiOxB,KA  
AK,CAAL,UAAN,CiBxN+C,MAAZ,CAAhB,C;O;KAXxD,C;8FAGA,yB;MfwNA,aAS6D,0B;MAT7D,+B;MexN  
A,wB;QAEyD,OAMD,eAAM,IAAK,KAAK,UAAy,CfyN/C,eAAW,oBe/NoB,Kf+NzB,KAAK,CAAL,YAAN,Cez  
N+C,MAAZ,CAAhB,C;O;KARxD,C;8FAGA,yB;MhBwOA,kBAS6D,sB;MAT7D,+B;MgBxOA,wB;QAEuD,OA  
GC,eAAM,IAAK,KAAK,UAAy,ChB4O/C,eAAW,oBgB/OkB,KhB+OvB,KAAK,CAAL,iBAAN,CgB5O+C,MAA  
Z,CAAhB,C;O;KALxD,C;8FAGA,yB;MAAA,+B;MAAA,wB;QAEwD,sBAAM,IAAK,KAAK,UAAy,KAAM,KA  
AAZ,CAAhB,C;O;KAFxD,C;0FAIA,yB;MjB6MA,WAS6D,wB;MAT7D,+B;MiBpMA,8C;MATA,wB;QAEsD,O  
ASA,YAAy,IAAZ,EjB2MjB,eAAW,oBiBpNe,KjBoNpB,KAAK,CAAL,UAAN,CiB3MiB,C;O;KAXtD,C;0FAGA  
,yB;Mf2MA,aAS6D,0B;MAT7D,+B;MerMA,8C;MANA,wB;QAEuD,OAMD,YAAy,IAAZ,Ef4MjB,eAAW,oBel  
NgB,KfkNrB,KAAK,CAAL,YAAN,Ce5MiB,C;O;KARtD,C;0FAGA,yB;MhB2NA,kBAS6D,sB;MAT7D,+B;MgB  
xNA,8C;MAHA,wB;QAEqD,OAGC,YAAy,IAAZ,EhB+NjB,eAAW,oBgBIOc,KhBkOnB,KAAK,CAAL,iBAAN,  
CgB/NiB,C;O;KALtD,C;0FAGA,yB;MAAA,8C;MAAA,wB;QAEsD,mBAAY,IAAZ,EAakB,KAAIB,C;O;KAFtD  
,C;0FAIA,yB;MjBgmA,WAS6D,wB;MAT7D,+B;MiB3KA,oD;MArBA,wB;QAMsD,OAqBA,eAAe,IAAf,EjB8Kj  
B,eAAW,oBiBnMe,KjBmMpB,KAAK,CAAL,UAAN,CiB9KiB,C;O;KA3BtD,C;0FAOA,yB;Mf0LA,aAS6D,0B;M  
AT7D,+B;Me5KA,oD;MAdA,wB;QAMuD,OAcd,eAAe,IAAf,Ef+KjB,eAAW,oBe7LgB,Kf6LrB,KAAK,CAAL,Y  
AAN,Ce/KiB,C;O;KApBtD,C;0FAOA,yB;MhBsMA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MAPA,wB;QAMqD,  
OAOc,eAAe,IAAf,EhBkMjB,eAAW,oBgBzMc,KhByMnB,KAAK,CAAL,iBAAN,CgBIMiB,C;O;KAbtD,C;0FAO  
A,yB;MAAA,oD;MAAA,wB;QAMsD,sBAae,IAAf,EAAqB,KAArB,C;O;KANtD,C;oGAQA,yB;MjBmKA,WAS6  
D,wB;MAT7D,+B;MiBpMA,8C;MAiCA,wB;QAMkD,OArCI,YAAy,IAAZ,EjB2MjB,eAAW,oBiBtKgB,KjBsKr  
B,KAAK,CAAL,UAAN,CiB3MiB,C;O;KA+BtD,C;oGAOA,yB;Mf6JA,aAS6D,0B;MAT7D,+B;MerMA,8C;MAw  
CA,wB;QAMmD,OA5CG,YAAy,IAAZ,Ef4MjB,eAAW,oBehKiB,KfgKtB,KAAK,CAAL,YAAN,Ce5MiB,C;O;K  
AsCtD,C;oGAOA,yB;MhByKA,kBAS6D,sB;MAT7D,+B;MgBxNA,8C;MA+CA,wB;QAMiD,OAnDK,YAAy,IA  
AZ,EhB+NjB,eAAW,oBgB5Ke,KhB4KpB,KAAK,CAAL,iBAAN,CgB/NiB,C;O;KA6CtD,C;oGAOA,yB;MatDA,  
8C;MA5DA,wB;QAMkD,OA1DI,YAAy,IAAZ,EA0DA,KA1DA,C;O;KAoDtD,C;0FAQA,yB;MjBsIA,WAS6D,w  
B;MAT7D,+B;MiB3KA,oD;MjB4OJ,0B;MAAA,+B;MiBvMI,wB;QAQ6C,OjB0MP,eAAW,OiBjPK,eAAe,IAAf,E  
jB8KjB,eAAW,oBiBvIM,KjBuIX,KAAK,CAAL,UAAN,CiB9KiB,CA4KjB,KjBqEY,SAAX,C;O;KiBINtC,C;0FA  
SA,yB;Mf8HA,aAS6D,0B;MAT7D,+B;Me5KA,oD;Mf6OJ,4B;MAAA,iC;Me/LI,wB;QAQ+C,OfkMP,gBAAY,Qel  
PE,eAAe,IAAf,Ef+KjB,eAAW,oBe/HQ,Kf+Hb,KAAK,CAAL,YAAN,Ce/KiB,CAsLf,Kf4Da,SAAZ,C;O;Ke1MxC  
,C;0FASA,yB;MhBwIA,kBAS6D,sB;MAT7D,+B;MgB/LA,oD;MhBkQJ,6B;MgB3MI,wB;QAQ2C,OhB8MP,cgBv  
QkB,eAAe,IAAf,EhBkMjB,eAAW,oBgBzII,KhByIT,KAAK,CAAL,iBAAN,CgBIMiB,CAGMnB,KhBuEW,QAAY  
,C;O;KgBtNpC,C;0FASA,yB;MAhEA,oD;MAGEA,wB;QAQ6C,OAIES,eAAe,IAAf,EAkEL,KAIEK,C;O;KA0DtD  
,C;0EAUA,yB;MAAA,+B;MAAA,mB;QAM0C,sBAAM,SAAK,MAAX,C;O;KAN1C,C;0EAQA,yB;MAAA,+B;  
MAAA,mB;QAM0C,sBAAM,SAAK,MAAX,C;O;KAN1C,C;kGAQA,yB;MAAA,gD;MAAA,wB;QAE+D,2BAA  
W,IAAX,EAAiB,KAAjB,C;O;KAF/D,C;0FAIA,yB;MAAA,+B;MAAA,2B;QAOoD,sBAAM,oBAAS,QAAT,CAA  
N,C;O;KAPpD,C;0FASA,yB;MAAA,+B;MAAA,2B;QAOoD,sBAAM,6BAAU,QAAY,CAAN,C;O;KAPpD,C;0F

ASA,yB;MAAA,+B;MAAA,wB;QAEmD,sBAAM,IAAK,KAAL,KAAC,KAAM,KAAPB,CAAN,C;O;KAFnD,C;w  
FAGA,yB;MAAA,+B;MAAA,wB;QAEkD,sBAAM,IAAK,KAAL,IAAa,KAAM,KAAAnB,CAAN,C;O;KAFID,C;0F  
AGA,yB;MAAA,+B;MAAA,wB;QAEmD,sBAAM,IAAK,KAAL,KAAC,KAAM,KAAPB,CAAN,C;O;KAFnD,C;0  
EAGA,yB;MAAA,+B;MAAA,mB;QAEiC,sBAAM,SAAK,MAAX,C;O;KAFjC,C;gFAIA,yB;MAAA,0B;MAAA,  
mB;QAUmC,OAAK,OAAL,SAAK,S;O;KAVx C,C;kFAWA,yB;MAAA,4B;MAAA,mB;QAUqC,OAAK,QAAL,S  
AAK,S;O;KAV1C,C;8EAWA,Y;MAU1C,OAAA,SAAK,Q;K;gFACT,C,Y;MASmC,gB;K;kFAEnC,yB;MjBmEJ,0B;  
MAAA,+B;MiBnEI,mB;QASqC,OjBqEC,eAAW,OiBrEZ,SjBqEY,SAAX,C;O;KiB9EtC,C;oFAUA,yB;Mf0DJ,4B;  
MAAA,iC;Me1DI,mB;QASuC,Of4DC,gBAA Y,Qe5Db,Sf4Da,SAAZ,C;O;KerExC,C;gFAUA,yB;MhBqEJ,6B;Mg  
BrEI,mB;QASmC,OhBuEC,cgBvED,ShBuEW,QAAV,C;O;KgBhFpC,C;kFAUA,Y;MAEQC,W;K;kFAErC,yB;MA  
SA,kD;MATA,mB;QAQqC,OASE,cAAc,SAAd,C;O;KajBvC,C;oFASA,yB;MAAA,kD;MAAA,mB;QAQuC,qBA  
Ac,SAAd,C;O;KARvC,C;+BAUA,Y;MAAyC,qBAAc,SAAd,C;K;;;+BANW7C,Y;MAAA,c;MAG4D,qD;MAH5D  
,a;K;6BAAA,iB;MAAA,2IAG4D,oCAH5D,G;K;wEauWA,yB;MAAA,+B;MAAA,4B;QAW0C,sBAAW,oBAAL,  
SAAK,CAAX,C;O;KAX1C,C;0EAYA,yB;MAAA,+B;MAAA,4B;QAW2C,sBAAW,oBAAL,SAAK,CAAX,C;O;K  
AX3C,C;0EAYA,yB;MAAA,+B;MAAA,4B;QAWyC,sBAAW,oBAAL,SAAK,CAAX,C;O;KAXzC,C;0EAYA,yB;  
MAAA,+B;MAAA,4B;QAU0C,sBAAM,SAAN,C;O;KAV1C,C;yEAYA,yB;MAAA,kD;MAAA,4B;QAS2C,qBAA  
mB,SAAnB,C;O;KAT3C,C;0EAUA,yB;MAAA,kD;MAAA,4B;QAS4C,qBAAc,SAAd,C;O;KAT5C,C;liB9ZA,6B;  
MACqB,sB;K;uCAKjB,iB;MAM6C,OjBsYP,UiBtYO,aAAQ,KAAR,CjBsYP,C;K;uCiBpYtC,wB;MAOI,aAAQ,K  
AAR,IAAiB,KjBoRc,K;K;kFiBhRL,Y;MAAQ,OAAA,YAAQ,O;K;oCAE9C,Y;MAC8E,+BAAS,YAAT,C;K;IAGx  
D,oC;MAAiC,wB;MAAhC,oB;MACnB,eAAoB,C;K;4CACpB,Y;MAAyB,sBAAQ,YAAM,O;K;8CACvC,Y;MAA  
yD,Q;MAA9B,IAAI,eAAQ,YAAM,OAAIB,C;QAAA,OjBgXO,UiBhXiB,aAAM,mBAAN,EAAM,2BAAN,OjBgX  
jB,C;;QiBhX+C,MAAM,2BAAuB,YAAM,WAA7B,C;K;;0CAG3F,mB;MAIS,Q;MAAL,IAAI,eAAC,0EAAD,QA  
AJ,C;QAAiC,OAAO,K;MAExC,OAAe,WAAR,YAAQ,EAAS,OjB8PO,KiB9PhB,C;K;+CAGnB,oB;MACY,Q;MA  
A2B,gBAA3B,gE;MAA2B,c;;QhB0nDvB,U;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,I;UAAP,e;;QA  
CrB,6B;QAAhB,OAAgB,gBAAhB,C;UAAgB,2B;UgB1nD6B,2BhB0nDR,OgB1nDQ,Q;UAAA,W;YAAuB,oBAA  
R,YAAQ,EhB0nD/B,ODh4CF,KiB1PiC,C;;UhB0nD9C,IAAI,OA AJ,C;YAAyB,aAAO,K;YAAP,e;;QAC/C,aAAO  
,I;;MgB3nDH,iB;K;mCAGJ,Y;MAAkC,OAAA,IAAK,QAAQ,OAAb,KAAqB,C;K;;IA/CvD,sC;MAAA,oD;MAC  
gC,uBAAK,iBAAU,IAAV,CAAL,C;MADhC,Y;K;;;oCAPJ,Y;MAAA,OAKqB,qDALrB,M;K;oCAAA,Y;MAAA,  
c;MAKqB,wD;MALrB,a;K;kCAAA,iB;MAAA,2IAKqB,0CALrB,G;K;gFayDA,yB;MAAA,yC;MAW sC,yC;QAA  
A,wB;UAAW,OAAA,aAAK,KAAL,CjByOV,K;S;O;MiBpPvC,6B;QAWI,OAAO,oBAAW,kBAAU,IAAV,EAAg  
B,uBAAhB,CAAX,C;O;KAXX,C;kFAcA,oB;MAGqE,e;K;I8LnE9C,2C;MAsBnB,kC;MATByD,4BAAiB,KAajB,  
EAAwB,YAAxB,K;K;qFAC/B,Y;MAAQ,iB;K;4FACD,Y;MAAQ,gB;K;8CAEzC,iB;MAA+C,W/MgDoB,a+MhD  
pB,U/MgDsC,KAAIB,E+MhDX,K/MgDyC,KAA9B,C+MhDpB,K;MAAA,S;QAAkB,O/MgDE,a+MhDF,K/MgDo  
B,KAAIB,E+MhDO,S/MgDuB,KAA9B,C+MhDF,K;;MAAIB,W;K;qCAE/C,Y;MAKkC,O/MyCiC,a+MzCjC,U/M  
yCmD,KAAIB,E+MzCzB,S/MyCuD,KAA9B,C+MzCjC,I;K;oCAEIC,iB;MAEY,UAAwB,M;MADhC,8CAAwB,k  
BAAa,KAAM,UAAAnB,KACHB,2CAAS,KAAM,MAAf,cAAwB,6CAAQ,KAAM,KAAd,QAAxB,CADgB,CAAxB  
,C;K;sCAGJ,Y;MACI,OAAI,cAAJ,GAAe,EAaf,GAAwB,M/M0QK,CARckB,U+MrOjB,U/MqO4B,KAAL,KAAo  
B,CAVzB,U+M3NP,U/M2Na,yB+M3NH,E/M2NG,CAAN,CAUyB,MAAPB,CAAN,CAqCIB,MAAK,Q+M1QV,Q  
/M0QK,CARckB,U+MrOoB,S/MqOT,KAAL,KAAoB,CAVzB,U+M3N6B,S/M2NvB,yB+M3NgC,E/M2NhC,CAA  
N,CAUyB,MAAPB,CAAN,CAqCIB,MAAK,Q+M1QV,I;K;sCAE5B,Y;MAAKC,OAAE,UAAF,qBAAU,S;K;IAE5  
C,gC;MAAA,oC;MACI,aAC+B,iBAAW,6BAAM,UAAjB,EAA4B,6BAAM,UAAIC,C;K;;;IAFnC,4C;MAAA,2C;  
QAAA,0B;;MAAA,oC;K;;IAYJ,qD;MA4CI,wC;MATCI,IAAI,gBAAJ,C;QAAwB,MAAa,gCAAYB,wBAAzB,C;M  
ACrC,IAAI,sCAAJ,C;QAA4B,MAAa,gCAAYB,yEAAzB,C;MAG7C,aAG0B,K;MAE1B,YAGyB,4BAA0B,KAA1  
B,EAAiC,YAAjC,EAA+C,IAA/C,C;MAEZB,YAGwB,I;K;0CAEXB,Y;MAAiD,oCAAYB,UAAzB,EAAgC,SAAhC  
,EAAsC,SAATC,C;K;yCAEjD,Y;MAMqC,OAAI,uBAAO,CAAX,G/Mf8B,a+MehB,U/MfkC,KAAIB,E+MeR,S/Mf  
sC,KAA9B,C+MehB,IAAd,G/Mf8B,a+MeE,U/MfgB,KAAIB,E+MeU,S/MfoB,KAA9B,C+MeE,I;K;wCAErE,iB;  
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KAAM,KAAd,QAAxB,KAA8C,kBAAQ,KAAM,KAAd,CADxB,CAA9B,C;K;0CAGJ,Y;MACI,OAAI,cAAJ,GAA  
e,EAaf,GAAwB,OAAM,M/MkND,CARckB,U+M7KX,U/M6KsB,KAAL,KAAoB,CAVzB,U+MnKD,U/MmKO,y

B+MnKG,E/MmKH,CAAN,CAUyB,MAApB,CAAN,CAqCIB,MAAK,Q+MINJ,Q/MkND,CArCkB,U+M7K0B,S/  
M6Kf,KAAL,KAAoB,CAVzB,U+MnKmC,S/MmK7B,yB+MnKsC,E/MmKtC,CAAN,CAUyB,MAApB,CAAN,C  
AqCIB,MAAK,Q+MINJ,IAAN,SAAqF,cAAU,6BAAU,EAAY,CAAV,CAAyB,QAA9G,I;K;0CAE5B,Y;MAAKC,  
OAAI,uBAAO,CAAX,GAAgB,UAAF,qBAAU,SAAV,cAAqB,SAArB,WAAd,GAAgD,UAAF,2BAAgB,SAAhB,c  
AA6B,SAAD,aAA5B,W;K;IAEhF,sC;MAAA,0C;K;mEACI,sC;MAQ+F,4BAAiB,UAAjB,EAA6B,QAA7B,EAAu  
C,IAAvC,C;K;;;IATnG,kD;MAAA,iD;QAAA,gC;;MAAA,0C;K;;IAoBkC,qD;MAA0C,wB;MAC5E,sBAA2B,I;M  
AC3B,iBAAmC,kBAAO,CAA1C,G/MhDmE,a+MgDtB,K/MhDwC,KAAIB,E+MgDb,I/MhD2C,KAA9B,C+MgDt  
B,KAA7C,G/MhDmE,a+MgDH,K/MhDqB,KAAIB,E+MgDM,I/MhDwB,KAA9B,C+MgDH,K;MACHc,c/M0SsC,  
U+M1SnB,I/M0SmB,C;M+MzStC,cAAuB,cAAJ,GAAa,KAAb,GAAwB,mB;K;iDAE3C,Y;MAAKC,qB;K;mDAE  
C,Y;MACI,YAAY,W;MACZ,IAAI,6BAAS,mBAAT,QAAJ,C;QACI,IAAI,CAAC,cAAL,C;UAAc,MAAa,6B;QAC  
3B,iBAAU,K;;;QAEV,c/M/C+C,U+M+C/C,W/M/C0D,KAAK,K+M+CvD,W/M/CkE,KAAX,CAAhB,C;;M+MiDn  
D,OAAO,K;K;;wEC7Hf,yB;MAAA,8C;MAAA,uB;QAOI,OAAO,MAAM,CAAN,EAAS,CAAT,C;O;KAPX,C;wE  
AUA,yB;MAAA,8C;MAAA,uB;QAOI,OAAO,MAAM,CAAN,EAAS,CAAT,C;O;KAPX,C;wEAUA,yB;MAAA,8  
C;MAAA,uB;QAOI,OAAO,MAAM,CAAN,EAAS,CAAT,C;O;KAPX,C;wEAUA,yB;MAAA,8C;MAAA,uB;QAO  
I,OAAO,MAAM,CAAN,EAAS,CAAT,C;O;KAPX,C;oFC7BA,yB;MAAA,gD;MAAA,4B;QAM6C,OAAQ,ajO+R  
hB,ciO/RgB,C;O;KANrD,C;oGAQA,yB;M/GwCA,iB;M+GxCA,4B;QAMqD,O/GwCM,MAAO,OIH+O7B,ckH/O  
6B,C;O;K+G9CIE,C;sGAQA,yB;MAAA,kE;MAAA,4B;QAMsD,OAAQ,sBjO+QzB,ciO/QyB,C;O;KAN9D,C;8FA  
QA,yB;MAAA,0D;MjOwWA,6B;MiOxWA,4B;QAOmD,OjO2WZ,ciO3WoB,kBjOsQtB,ciOtQsB,CjO2WpB,C;O;  
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0D,OjOmUnB,ciOnU2B,YjO8N7B,ciO9N6B,EAAY,QAAX,CjOmU3B,C;O;KiOhVvC,C;oFAgBA,yB;MAAA,gD;  
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S,qBjNwNxB,ciNxnwB,C;O;KAN/D,C;sGAQA,yB;MAAA,kE;MAAA,4B;QAMuD,OAAS,sBjNgNzB,ciNhNyB,  
C;O;KANhE,C;8FAQA,yB;MAAA,0D;MjN6SA,+B;MiN7SA,4B;QAOqD,OjNgTX,eiNhToB,kBjNuMvB,ciNvMu  
B,CjNgTpB,C;O;KiNvT1C,C;4FASA,yB;MAAA,wD;MjNoSA,+B;MiNpSA,4B;QAOoD,OjNuSV,eiNvSmB,iBjN  
8LtB,ciN9LsB,CjNuSnB,C;O;KiN9S1C,C;+EASA,yB;MAAA,4C;MjN2RA,+B;MiN3RA,sC;QAa2D,OjNwRjB,ei  
NxR0B,WjN+K7B,ciN/K6B,EAAY,QAAX,CjNwR1B,C;O;KiNrS1C,C;iFAeA,yB;M/GgEA,4C;MIG4MA,+B;Mi  
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## 1.5 slf4j 1.7.36

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## 1.6 busybox 1.36.1

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<one line to give the program's name and a brief idea of what it does.>

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`Gnomovision' (which makes passes at compilers) written by James Hacker.
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<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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# 1.7 micronaut-http-server-netty 3.9.4

## 1.7.1 Available under license :

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* /opt/cola/permits/1743477385_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-
jar/io/micronaut/http/server/netty/NettyEmbeddedServer.java
* /opt/cola/permits/1743477385_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-
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* /opt/cola/permits/1743477385_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-
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* /opt/cola/permits/1743477385_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-
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* /opt/cola/permits/1743477385_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-
jar/io/micronaut/http/server/netty/handler/accesslog/element/NotImplementedElementBuilder.java
* /opt/cola/permits/1743477385_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-
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\* /opt/cola/permits/1743477385\_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-jar/io/micronaut/http/server/netty/types/DefaultCustomizableResponseTypeHandlerRegistry.java  
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jar/io/micronaut/http/server/netty/types/files/package-info.java  
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jar/io/micronaut/http/server/netty/binders/PublisherBodyBinder.java  
\* /opt/cola/permits/1743477385\_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-  
jar/io/micronaut/http/server/netty/handler/package-info.java  
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jar/io/micronaut/http/server/netty/handler/accesslog/element/HeadersElement.java  
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jar/io/micronaut/http/server/netty/handler/accesslog/element/HeaderElementBuilder.java  
\* /opt/cola/permits/1743477385\_1689201650.2364814/0/micronaut-http-server-netty-3-9-4-sources-



jar/io/micronaut/http/server/netty/handler/accesslog/element/ElapseTimeElementBuilder.java  
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jar/io/micronaut/http/server/netty/IdentityWrapper.java  
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jar/io/micronaut/http/server/netty/HttpCompressionStrategy.java  
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## 1.8 netty-codec 4.1.94.Final

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\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/serialization/ClassResolvers.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/serialization/ClassLoaderClassResolver.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/xml/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/MessageToByteEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/base64/Base64Encoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/compression/Snappy.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-

jar/io/netty/handler/codec/MessageToMessageDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/DelimiterBasedFrameDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/PrematureChannelClosureException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/bytes/ByteArrayEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/JdkZlibEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/ReferenceMap.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/CachingClassResolver.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/CompatibleMarshallingDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/EncoderException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/string/StringDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/WeakReferenceMap.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/MessageToMessageEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/DecoderResult.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/LimitingByteInput.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/SoftReferenceMap.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/LineBasedFrameDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/SnappyFrameEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/ClassResolver.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/CorruptedFrameException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/ThreadLocalUnmarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/ChannelBufferByteOutput.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/ThreadLocalMarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-



jar/io/netty/handler/codec/marshalling/DefaultMarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/MarshallingEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/base64/Base64Decoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/LengthFieldPrepender.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/ZlibDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/MessageAggregator.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/JZlibEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/ZlibWrapper.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/MessageToMessageCodec.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/ContextBoundUnmarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/ByteToMessageCodec.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/ByteToMessageDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/Delimiters.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/CompatibleMarshallingEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/ObjectDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/string/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/DecoderException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/DecompressionException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/JZlibDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/ObjectDecoderInputStream.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/CompatibleObjectEncoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/CodecException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/ZlibUtil.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-

jar/io/netty/handler/codec/UnsupportedMessageTypeException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/ObjectEncoderOutputStream.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/CompressionException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/SnappyFrameDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/CompactObjectOutputStream.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/MarshallingDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/MarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/FixedLengthFrameDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/bytes/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/serialization/CompactObjectInputStream.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/UnmarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/ReplayingDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/base64/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/ChannelBufferByteInput.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/ReplayingDecoderByteBuf.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/TooLongFrameException.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/DefaultUnmarshallerProvider.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/marshalling/package-info.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/ZlibEncoder.java

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\*/  
 /\*\*

\* A decoder that splits the received {@link ByteBuf}s dynamically by the  
 \* value of the length field in the message. It is particularly useful when you  
 \* decode a binary message which has an integer header field that represents the  
 \* length of the message body or the whole message.

\* <p>

\* {@link LengthFieldBasedFrameDecoder} has many configuration parameters so  
 \* that it can decode any message with a length field, which is often seen in  
 \* proprietary client-server protocols. Here are some example that will give  
 \* you the basic idea on which option does what.

\*

\* <h3>2 bytes length field at offset 0, do not strip header</h3>

\*

\* The value of the length field in this example is <tt>12 (0x0C)</tt> which  
 \* represents the length of "HELLO, WORLD". By default, the decoder assumes  
 \* that the length field represents the number of the bytes that follows the  
 \* length field. Therefore, it can be decoded with the simplistic parameter  
 \* combination.

\* <pre>

```
* <b>lengthFieldOffset</b> = <b>0</b>
* <b>lengthFieldLength</b> = <b>2</b>
* lengthAdjustment = 0
* initialBytesToStrip = 0 (= do not strip header)
```

\*

\* BEFORE DECODE (14 bytes)      AFTER DECODE (14 bytes)

```
* +-----+-----+      +-----+-----+
* | Length | Actual Content |---->| Length | Actual Content |
* | 0x000C | "HELLO, WORLD" |      | 0x000C | "HELLO, WORLD" |
* +-----+-----+      +-----+-----+
```

\* </pre>

\*

\* <h3>2 bytes length field at offset 0, strip header</h3>

\*

\* Because we can get the length of the content by calling  
 \* {@link ByteBuf#readableBytes()}, you might want to strip the length  
 \* field by specifying <tt>initialBytesToStrip</tt>. In this example, we  
 \* specified <tt>2</tt>, that is same with the length of the length field, to  
 \* strip the first two bytes.

\* <pre>

```
* lengthFieldOffset = 0
* lengthFieldLength = 2
* lengthAdjustment = 0
```

\* `<b>initialBytesToStrip</b> = <b>2</b> (= the length of the Length field)`

\*

\* BEFORE DECODE (14 bytes)      AFTER DECODE (12 bytes)

\* +-----+-----+      +-----+

\* | Length | Actual Content |---->| Actual Content |

\* | 0x000C | "HELLO, WORLD" |      | "HELLO, WORLD" |

\* +-----+-----+      +-----+

\* `</pre>`

\*

\* `<h3>`2 bytes length field at offset 0, do not strip header, the length field

\* represents the length of the whole message`</h3>`

\*

\* In most cases, the length field represents the length of the message body

\* only, as shown in the previous examples. However, in some protocols, the

\* length field represents the length of the whole message, including the

\* message header. In such a case, we specify a non-zero

\* `<tt>lengthAdjustment</tt>`. Because the length value in this example message

\* is always greater than the body length by `<tt>2</tt>`, we specify `<tt>-2</tt>`

\* as `<tt>lengthAdjustment</tt>` for compensation.

\* `<pre>`

\* `lengthFieldOffset = 0`

\* `lengthFieldLength = 2`

\* `<b>lengthAdjustment</b> = <b>-2</b> (= the length of the Length field)`

\* `initialBytesToStrip = 0`

\*

\* BEFORE DECODE (14 bytes)      AFTER DECODE (14 bytes)

\* +-----+-----+      +-----+-----+

\* | Length | Actual Content |---->| Length | Actual Content |

\* | 0x000E | "HELLO, WORLD" |      | 0x000E | "HELLO, WORLD" |

\* +-----+-----+      +-----+-----+

\* `</pre>`

\*

\* `<h3>`3 bytes length field at the end of 5 bytes header, do not strip header`</h3>`

\*

\* The following message is a simple variation of the first example. An extra

\* header value is prepended to the message. `<tt>lengthAdjustment</tt>` is zero

\* again because the decoder always takes the length of the prepended data into

\* account during frame length calculation.

\* `<pre>`

\* `<b>lengthFieldOffset</b> = <b>2</b> (= the length of Header 1)`

\* `<b>lengthFieldLength</b> = <b>3</b>`

\* `lengthAdjustment = 0`

\* `initialBytesToStrip = 0`

\*

\* BEFORE DECODE (17 bytes)      AFTER DECODE (17 bytes)

\* +-----+-----+-----+      +-----+-----+-----+

\* | Header 1 | Length | Actual Content |---->| Header 1 | Length | Actual Content |

\* | 0xCAFE | 0x00000C | "HELLO, WORLD" |      | 0xCAFE | 0x00000C | "HELLO, WORLD" |

```

* +-----+-----+-----+ +-----+-----+-----+
* </pre>
*
* <h3>3 bytes length field at the beginning of 5 bytes header, do not strip header</h3>
*
* This is an advanced example that shows the case where there is an extra
* header between the length field and the message body. You have to specify a
* positive <tt>lengthAdjustment</tt> so that the decoder counts the extra
* header into the frame length calculation.
* <pre>
* lengthFieldOffset = 0
* lengthFieldLength = 3
* <b>lengthAdjustment</b> = <b>2</b> (= the length of Header 1)
* initialBytesToStrip = 0
*
* BEFORE DECODE (17 bytes)                AFTER DECODE (17 bytes)
* +-----+-----+-----+ +-----+-----+-----+
* | Length | Header 1 | Actual Content |---->| Length | Header 1 | Actual Content |
* | 0x00000C | 0xCAFE | "HELLO, WORLD" | | 0x00000C | 0xCAFE | "HELLO, WORLD" |
* +-----+-----+-----+ +-----+-----+-----+
* </pre>
*
* <h3>2 bytes length field at offset 1 in the middle of 4 bytes header,
* strip the first header field and the length field</h3>
*
* This is a combination of all the examples above. There are the prepended
* header before the length field and the extra header after the length field.
* The prepended header affects the <tt>lengthFieldOffset</tt> and the extra
* header affects the <tt>lengthAdjustment</tt>. We also specified a non-zero
* <tt>initialBytesToStrip</tt> to strip the length field and the prepended
* header from the frame. If you don't want to strip the prepended header, you
* could specify <tt>0</tt> for <tt>initialBytesToSkip</tt>.
* <pre>
* lengthFieldOffset = 1 (= the length of HDR1)
* lengthFieldLength = 2
* <b>lengthAdjustment</b> = <b>1</b> (= the length of HDR2)
* <b>initialBytesToStrip</b> = <b>3</b> (= the length of HDR1 + LEN)
*
* BEFORE DECODE (16 bytes)                AFTER DECODE (13 bytes)
* +-----+-----+-----+ +-----+-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x000C | 0xFE | "HELLO, WORLD" | | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+ +-----+-----+-----+
* </pre>
*
* <h3>2 bytes length field at offset 1 in the middle of 4 bytes header,
* strip the first header field and the length field, the length field
* represents the length of the whole message</h3>

```

```

*
* Let's give another twist to the previous example. The only difference from
* the previous example is that the length field represents the length of the
* whole message instead of the message body, just like the third example.
* We have to count the length of HDR1 and Length into <tt>lengthAdjustment</tt>.
* Please note that we don't need to take the length of HDR2 into account
* because the length field already includes the whole header length.
* <pre>
* lengthFieldOffset = 1
* lengthFieldLength = 2
* <b>lengthAdjustment</b> = <b>-3</b> (= the length of HDR1 + LEN, negative)
* <b>initialBytesToStrip</b> = <b>3</b>
*
* BEFORE DECODE (16 bytes)          AFTER DECODE (13 bytes)
* +-----+-----+-----+-----+ +-----+-----+
* | HDR1 | Length | HDR2 | Actual Content |---->| HDR2 | Actual Content |
* | 0xCA | 0x0010 | 0xFE | "HELLO, WORLD" |    | 0xFE | "HELLO, WORLD" |
* +-----+-----+-----+-----+ +-----+-----+
* </pre>
* @see LengthFieldPrepender
*/

```

Found in path(s):

```

* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
jar/io/netty/handler/codec/LengthFieldBasedFrameDecoder.java

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```

* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
jar/io/netty/handler/codec/DefaultHeaders.java

```

```

* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
jar/io/netty/handler/codec/EmptyHeaders.java

```

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/Headers.java

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/\*\*

\* Utility class for {@link ByteBuf} that encodes and decodes to and from  
\* [Base64](https://en.wikipedia.org/wiki/Base64) notation.

\* <p>

\* The encoding and decoding algorithm in this class has been derived from

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\\* Base64 Encoder/Decoder](http://iharder.sourceforge.net/current/java/base64/).

\*/

Found in path(s):

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-jar/io/netty/handler/codec/base64/Base64.java

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jar/io/netty/handler/codec/compression/Lz4XXHash32.java

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jar/io/netty/handler/codec/compression/Zstd.java

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/BrotliDecoder.java

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/BrotliEncoder.java

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/Brotli.java

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/BrotliOptions.java

\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/compression/CompressionOptions.java

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jar/io/netty/handler/codec/compression/GzipOptions.java

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jar/io/netty/handler/codec/compression/ZstdConstants.java

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jar/io/netty/handler/codec/compression/ZstdOptions.java

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jar/io/netty/handler/codec/compression/StandardCompressionOptions.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
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jar/io/netty/handler/codec/compression/JdkZlibDecoder.java  
\* /opt/cola/permits/1735715921\_1688166920.9934118/0/netty-codec-4-1-94-final-sources-  
jar/io/netty/handler/codec/xml/XmlFrameDecoder.java  
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jar/io/netty/handler/codec/compression/Crc32c.java  
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 * <p>
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* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
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* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
jar/io/netty/handler/codec/ValueConverter.java
* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
jar/io/netty/handler/codec/DefaultHeadersImpl.java
* /opt/cola/permits/1735715921_1688166920.9934118/0/netty-codec-4-1-94-final-sources-
jar/io/netty/handler/codec/CharSequenceValueConverter.java
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## 1.9 logredactor 1.0.10

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\* /opt/cola/permits/1300482773\_1649149016.89/0/logredactor-1-0-10-sources-  
jar/io/confluent/log4j/redactor/RedactorPolicy.java  
\* /opt/cola/permits/1300482773\_1649149016.89/0/logredactor-1-0-10-sources-  
jar/io/confluent/log4j/redactor/RedactorAppender.java  
\* /opt/cola/permits/1300482773\_1649149016.89/0/logredactor-1-0-10-sources-  
jar/io/confluent/logredactor/internal/StringRedactor.java

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jar/io/confluent/log4j2/redactor/RedactorPolicy.java

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# 1.10 servlet-api 3.0.1

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## 1.11 asm 9.4

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```
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jar/org/objectweb/asm/signature/SignatureReader.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Context.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-
jar/org/objectweb/asm/ModuleWriter.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-
jar/org/objectweb/asm/ClassWriter.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Label.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/FieldWriter.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-
jar/org/objectweb/asm/TypeReference.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Symbol.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-
jar/org/objectweb/asm/MethodTooLargeException.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Type.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-
jar/org/objectweb/asm/MethodVisitor.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Frame.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Handle.java
* /opt/cola/permits/1519295482_1671725028.6043975/0/asm-9-4-sources-1-
jar/org/objectweb/asm/ConstantDynamic.java
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```

\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/AnnotationWriter.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/RecordComponentVisitor.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/MethodWriter.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/ByteVector.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/signature/SignatureWriter.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/ClassTooLargeException.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/AnnotationVisitor.java  
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\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/CurrentFrame.java  
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\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/ClassVisitor.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/SymbolTable.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Edge.java  
\* /opt/cola/permits/1519295482\_1671725028.6043975/0/asm-9-4-sources-1-jar/org/objectweb/asm/Constants.java  
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jar/org/objectweb/asm/signature/package.html
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- \* /opt/cola/permits/1606593918\_1679416490.6124792/0/cloudevents-core-2-4-0-sources-jar/io/cloudevents/core/v1/CloudEventV1.java
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\* /opt/cola/permits/1606593918\_1679416490.6124792/0/cloudevents-core-2-4-0-sources-jar/io/cloudevents/core/message/MessageWriter.java  
\* /opt/cola/permits/1606593918\_1679416490.6124792/0/cloudevents-core-2-4-0-sources-jar/io/cloudevents/core/v1/V03ToV1AttributesConverter.java  
\* /opt/cola/permits/1606593918\_1679416490.6124792/0/cloudevents-core-2-4-0-sources-jar/io/cloudevents/core/impl/CloudEventContextReaderAdapter.java  
\* /opt/cola/permits/1606593918\_1679416490.6124792/0/cloudevents-core-2-4-0-sources-jar/io/cloudevents/core/message/StructuredMessageReader.java  
\* /opt/cola/permits/1606593918\_1679416490.6124792/0/cloudevents-core-2-4-0-sources-jar/io/cloudevents/core/builder/CloudEventBuilder.java

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# 1.13 apache-log4j 2.17.1

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```

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## 1.17 micronaut-router 3.9.4

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```
* /opt/cola/permits/1743477303_1689201648.0883698/0/micronaut-router-3-9-4-sources-
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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/AnnotatedMethodRouteBuilder.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/package-info.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/RouteMatch.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/qualifier/ProducesMediaTypeQualifier.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/resolution/HeaderVersionResolverConfiguration.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/DefaultRouteBuilder.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/RoutesVersioningConfiguration.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedRequestAttributeRouteException.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/FilterRoute.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/BasicObjectRouteMatch.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/Route.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/Router.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/DefaultRouter.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/AnnotatedFilterRouteBuilder.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/resolution/ParameterVersionResolverConfiguration.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/NullArgument.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/resolution/RequestVersionResolver.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/resolution/VersionResolver.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/resolution/ParameterVersionResolver.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/DuplicateRouteException.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/package-info.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/RouteVersionFilter.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/RoutingException.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/UnresolvedArgument.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/naming/ConfigurableUriNamingStrategy.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/RouteInfo.java

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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/RouteMatchUtils.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/UriRoute.java

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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/filter/RouteMatchFilter.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/BeanDefinitionFilterRoute.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/filter/FilteredRouter.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/naming/HyphenatedUriNamingStrategy.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/resource/StaticResourceResolver.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/ErrorMessageMatch.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/DefaultUriRouteMatch.java

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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/MethodBasedRouteMatch.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/StatusRouteMatch.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/qualifier/ConsumesMediaTypeQualifier.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/VersionRouteMatchFilter.java

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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedHeaderRouteException.java

\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/GroovyRouteBuilder.groovy  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedPartRouteException.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/UriRouteMatch.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/DefaultVersionProvider.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/resource/package-info.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/DefaultFilterRoute.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedQueryValueRouteException.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/resolution/package-info.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedRouteException.java  
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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/resource/StaticResourceConfiguration.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/ConfigurationDefaultVersionProvider.java  
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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/StatusRoute.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/version/VersionAwareRouterListener.java  
\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/exceptions/UnsatisfiedCookieValueRouteException.java  
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\* /opt/cola/permits/1743477303\_1689201648.0883698/0/micronaut-router-3-9-4-sources-jar/io/micronaut/web/router/package-info.java

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# 1.19 micronaut-reactor 2.6.0

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

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Found in path(s):

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

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

jar/org/w3c/dom/html/HTMLDOMImplementation.java

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 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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 * limitations under the License.
 */
/**
 * Checks if this content model has had its min/maxOccurs values reduced for
 * purposes of speeding up UPA. If so, this content model should not be used
 * for any purpose other than checking unique particle attribution
 *
 * @return a boolean that says whether this content has been compacted for UPA
 */
```

Found in path(s):

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

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 */
```

/\*\*

\* DOM Level 3 LS CR - Experimental.

\* Create a new `LSParser`. The newly constructed parser may

\* then be configured by means of its `DOMConfiguration`

\* object, and used to parse documents by means of its `parse`

\* method.

\* @param mode The `mode` argument is either

\* `MODE_SYNCHRONOUS` or `MODE_ASYNCHRONOUS`, if

\* `mode` is `MODE_SYNCHRONOUS` then the

\* `LSParser` that is created will operate in synchronous

\* mode, if it's `MODE_ASYNCHRONOUS` then the

\* `LSParser` that is created will operate in asynchronous

\* mode.

\* @param schemaType An absolute URI representing the type of the schema

\* language used during the load of a `Document` using the

\* newly created `LSParser`. Note that no lexical checking

\* is done on the absolute URI. In order to create a

\* `LSParser` for any kind of schema types (i.e. the

\* `LSParser` will be free to use any schema found), use the value

\* `null`.

\* <p><b>Note:</b> For W3C XML Schema [[XML Schema Part 1](http://www.w3.org/TR/2001/REC-xmlschema-1-20010502)]

\* , applications must use the value

\* `"http://www.w3.org/2001/XMLSchema"`. For XML DTD [[XML 1.0](http://www.w3.org/TR/2000/REC-xml-20001006)],

\* applications must use the value

\* `"http://www.w3.org/TR/REC-xml"`. Other Schema languages

\* are outside the scope of the W3C and therefore should recommend an

\* absolute URI in order to use this method.

\* @return The newly created `LSParser` object. This

\* `LSParser` is either synchronous or asynchronous

\* depending on the value of the `mode` argument.

\* <p><b>Note:</b> By default, the newly created `LSParser`

\* does not contain a `DOMErrorHandler`, i.e. the value of

\* the "[parameter-error-handler](http://www.w3.org/TR/2003/WD-DOM-Level-3-Core-20030609/core.html#parameter-error-handler)

\* `error-handler`" configuration parameter is `null`. However, implementations

\* may provide a default error handler at creation time. In that case,

\* the initial value of the `"error-handler"` configuration

\* parameter on the new created `LSParser` contains a

\* reference to the default error handler.

\* @exception DOMException

\* NOT\_SUPPORTED\_ERR: Raised if the requested mode or schema type is

\* not supported.

\*/

Found in path(s):

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

jar/org/apache/xerces/dom/CoreDOMImplementationImpl.java

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Found in path(s):

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

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/\*\*

\* used to check the 3 constraints against each complex type  
\* (should be each model group):  
\* Unique Particle Attribution, Particle Derivation (Restriction),  
\* Element Declarations Consistent.

\*/

Found in path(s):

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

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Found in path(s):

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

jar/org/apache/xerces/impl/xs/models/CMBuilder.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/WMLMetaElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/XSSimpleType.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDelegate.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/opti/SchemaDOMParser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xpath/regex/RegularExpression.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/opti/ElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/events/UIEventImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xml/serialize/Method.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/stax/events/EntityReferenceImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xs/datatypes/ByteList.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/html/dom/HTMLBodyElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dtd/XMLNSDTDValidator.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/models/XSCMBinOp.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/DeferredAttrImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/util/DOMUtil.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLIElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/jaxp/SAXParserFactoryImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/xpointer/ElementSchemePointer.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/msg/XMLMessageFormatter.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/xs/opti/DefaultElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/jaxp/validation/SoftReferenceGrammarPool.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/jaxp/validation/AbstractXMLSchema.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/dom/AttrNSImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-

jar/org/apache/xerces/jaxp/datatype/DurationImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLTdElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/XMLEntityDescription.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/wml/dom/WMLInputElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
jar/org/apache/xerces/impl/dv/dtd/NMTOKENDatatypeValidator.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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jar/org/apache/xerces/impl/dv/SchemaDVFactory.java  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/SymbolTable.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/AnyURIDV.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/XMLEntityScanner.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/XMLEntityManager.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSAttributeDecl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xinclude/XIncludeNamespaceSupport.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/models/XSEmptyCM.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLOptGroupElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/DVFactoryException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLDocumentImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/SchemaDateTimeException.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLOptionElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLPElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLOptionElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLElement.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLParamElementImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/TreeWalkerImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/dtd/XML11DTDDVFactoryImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xpath/regex/ParseException.java

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/NodeImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/dtd/XML11IDREFDatatypeValidator.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLConfigurationException.java  
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\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/jaxp/validation/ValidatorImpl.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/parsers/XMLGrammarParser.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dtd/XMLSimpleType.java  
\* /opt/cola/permits/1257218116\_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/SchemaNamespaceSupport.java

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

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/MonthDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/DurationDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/MonthDayDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/TimeDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/traversers/XSAttributeChecker.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/YearMonthDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/XSModelGroupImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDecl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/traversers/XSDHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/DayDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/XMLSchemaValidator.java
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jar/org/apache/xerces/impl/msg/XMLSchemaMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DOMMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XPointerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DatatypeMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_fr.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/SAXMessages.properties
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jar/org/apache/xerces/impl/msg/XIncludeMessages.properties
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jar/org/apache/xerces/impl/msg/XMLSerializerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_ja.properties
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jar/org/apache/xerces/impl/xs/models/XSDFACM.java
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## 1.23 cloudevents-kafka 2.4.0

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## 1.24 jackson-dataformat-yaml 2.15.0

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

It is currently developed by a community of developers.

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\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/ServerDomainSocketChannel.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/FileDescriptor.java

\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/Socket.java  
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\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/netty\_unix\_filedescriptor.h  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/Errors.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/NativeInetAddress.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/UnixChannel.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/netty\_unix\_errors.c  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DomainSocketReadMode.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DomainSocketChannelConfig.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DatagramSocketAddress.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/netty\_unix\_socket.c  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DomainSocketAddress.java

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\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-  
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jar/io/netty/channel/unix/ErrorsStaticallyReferencedJniMethods.java
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jar/io/netty/channel/unix/LimitsStaticallyReferencedJniMethods.java
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jar/io/netty/channel/unix/Limits.java
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\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/package-info.java  
\* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/Unix.java

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- \* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DomainDatagramChannelConfig.java
- \* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DomainDatagramPacket.java
- \* /opt/cola/permits/1735716026\_1688166875.313498/0/netty-transport-native-unix-common-4-1-94-final-sources-jar/io/netty/channel/unix/DomainDatagramSocketAddress.java
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## 1.26 jackson-annotations 2.15.0

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

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# 1.28 jackson-databind 2.15.1

## 1.28.1 Available under license :

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## 1.29 j2objc-annotations 1.3

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 \*/

```
package java.security;
```

```
import java.io.Serializable;
```

```
/**
```

```
 * Legacy security code; do not use.
```

```
 */
```

```
public abstract class Permission implements Guard, Serializable {
    public Permission(String name) { }
```

```
    public final String getName() { return null; }
```

```
    public void checkGuard(Object obj) throws SecurityException { }
```

```
    public PermissionCollection newPermissionCollection() {
        return new AllPermissionCollection();
    }
```

```
    public abstract String getActions();
```

```
    public abstract boolean implies(Permission permission);
}
```

```
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\* file name: UBiDiProps.java  
\* encoding: US-ASCII  
\* tab size: 8 (not used)  
\* indentation:4  
\*

\* created on: 2005jan16  
\* created by: Markus W. Scherer  
\*

\* Low-level Unicode bidi/shaping properties access.  
\* Java port of ubidi\_props.h/c.

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<code>Replaceable</code> is an interface representing a string of characters that supports the replacement of a range of itself with a new string of characters. It is used by APIs that change a piece of text while retaining metadata. Metadata is data other than the Unicode characters returned by `char32At()`. One example of metadata is style attributes; another is an edit history, marking each character with an author and revision number.

<p>An implicit aspect of the <code>Replaceable</code> API is that during a replace operation, new characters take on the metadata of the old characters. For example, if the string "the <b>bold</b> font" has range (4, 8) replaced with "strong", then it becomes "the <b>strong</b> font".

<p><code>Replaceable</code> specifies ranges using a start offset and a limit offset. The range of characters thus specified includes the characters at offset `start..limit-1`. That is, the start offset is inclusive, and the limit offset is exclusive.

<p><code>Replaceable</code> also includes API to access characters in the string: <code>length()</code>, <code>charAt()</code>, <code>char32At()</code>, and <code>extractBetween()</code>.

<p>For a subclass to support metadata, typical behavior of <code>replace()</code> is the following:

<ul>

<li>Set the metadata of the new text to the metadata of the first character replaced</li>

<li>If no characters are replaced, use the metadata of the previous character</li>

<li>If there is no previous character (i.e. start == 0), use the following character</li>

<li>If there is no following character (i.e. the replaceable was empty), use default metadata<br>

<li>If the code point U+FFFF is seen, it should be interpreted as a special marker having no metadata</li>

</li>

</ul>

If this is not the behavior, the subclass should document any differences.

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@author Alan Liu

@stable ICU 2.0

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<code>ReplaceableString</code> is an adapter class that implements the <code>Replaceable</code> API around an ordinary <code>StringBuffer</code>.

<p><em>Note:</em> This class does not support attributes and is not intended for general use. Most clients will need to implement { @link Replaceable } in their text representation class.

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@see Replaceable

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\* /opt/cola/permits/1743477424\_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-jar/io/micronaut/messaging/annotation/package-info.java  
\* /opt/cola/permits/1743477424\_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-jar/io/micronaut/messaging/annotation/SendTo.java  
\* /opt/cola/permits/1743477424\_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-jar/io/micronaut/messaging/exceptions/MessageListenerException.java  
\* /opt/cola/permits/1743477424\_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-jar/io/micronaut/messaging/exceptions/MessagingException.java  
\* /opt/cola/permits/1743477424\_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-jar/io/micronaut/messaging/package-info.java  
\* /opt/cola/permits/1743477424\_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-jar/io/micronaut/messaging/exceptions/MessageAcknowledgementException.java



```
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/annotation/MessageListener.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/annotation/MessageHeaders.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/Acknowledgement.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/exceptions/MessagingClientException.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/MessagingApplication.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/annotation/MessageBody.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/annotation/MessageHeader.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/exceptions/MessagingSystemException.java
* /opt/cola/permits/1743477424_1689201637.8758647/0/micronaut-messaging-3-9-4-sources-
jar/io/micronaut/messaging/annotation/MessageMapping.java
```

## 1.32 alpine-baselayout-data 3.4.3-r1

### 1.32.1 Available under license :

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```
/*
* Create mount directories in fstab
*
* Copyright(c) 2008 Natanael Copa <natanael.copa@gmail.com>
* May be distributed under the terms of GPL-2
*
* usage: mkmntdirs [fstab]
*
*/
```

Found in path(s):

```
* /opt/cola/permits/1690300026_1684996389.3603017/0/alpine-baselayout-master-zip/alpine-baselayout-
master/src/mkmntdirs.c
```

## 1.33 protobuf-java 3.21.12

### 1.33.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
Manifest-Version: 1.0
Automatic-Module-Name: com.google.protobuf
Bnd-LastModified: 1671050201631
```

Build-Jdk: 11.0.13  
Built-By: kfm  
Bundle-Description: Core Protocol Buffers library. Protocol Buffers are a way of encoding structured data in an efficient yet extensible format.  
Bundle-DocURL: <https://developers.google.com/protocol-buffers/>  
Bundle-License: <https://opensource.org/licenses/BSD-3-Clause>  
Bundle-ManifestVersion: 2  
Bundle-Name: Protocol Buffers [Core]  
Bundle-SymbolicName: com.google.protobuf  
Bundle-Version: 3.21.12  
Created-By: Apache Maven Bundle Plugin  
Export-Package: com.google.protobuf;version="3.21.12"  
Import-Package: sun.misc;resolution:=optional,com.google.protobuf;version="[3.21,4)"  
Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.7))"  
Tool: Bnd-3.0.0.201509101326

Found in path(s):

\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/META-INF/MANIFEST.MF  
No license file was found, but licenses were detected in source scan.

```
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```

Found in path(s):

\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/compiler/plugin.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/source\_context.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/type.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/field\_mask.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/api.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/timestamp.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/duration.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/struct.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/empty.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/wrappers.proto

\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/any.proto  
\* /opt/cola/permits/1535600625\_1674018919.1448016/0/protobuf-java-3-21-12-jar/google/protobuf/descriptor.proto

## 1.34 snappy-java 1.1.8.4

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== Contributors ==

- \* Tatu Saloranta
- \* Providing benchmark suite
- \* Alec Wysoker
- \* Performance and memory usage improvement

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# 1.35 kafka-schema-serializer 7.3.0

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# Jackson JSON processor

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```
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<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <meta name="description" content="Home page of The Apache Software Foundation">

  <link rel="apple-touch-icon" sizes="57x57" href="/favicons/apple-touch-icon-57x57.png">
  <link rel="apple-touch-icon" sizes="60x60" href="/favicons/apple-touch-icon-60x60.png">
  <link rel="apple-touch-icon" sizes="72x72" href="/favicons/apple-touch-icon-72x72.png">
  <link rel="apple-touch-icon" sizes="76x76" href="/favicons/apple-touch-icon-76x76.png">
  <link rel="apple-touch-icon" sizes="114x114" href="/favicons/apple-touch-icon-114x114.png">
  <link rel="apple-touch-icon" sizes="120x120" href="/favicons/apple-touch-icon-120x120.png">
  <link rel="apple-touch-icon" sizes="144x144" href="/favicons/apple-touch-icon-144x144.png">
  <link rel="apple-touch-icon" sizes="152x152" href="/favicons/apple-touch-icon-152x152.png">
  <link rel="apple-touch-icon" sizes="180x180" href="/favicons/apple-touch-icon-180x180.png">
  <link rel="icon" type="image/png" href="/favicons/favicon-32x32.png" sizes="32x32">
  <link rel="icon" type="image/png" href="/favicons/favicon-194x194.png" sizes="194x194">
  <link rel="icon" type="image/png" href="/favicons/favicon-96x96.png" sizes="96x96">
  <link rel="icon" type="image/png" href="/favicons/android-chrome-192x192.png" sizes="192x192">
  <link rel="icon" type="image/png" href="/favicons/favicon-16x16.png" sizes="16x16">
  <link rel="manifest" href="/favicons/manifest.json">
  <link rel="shortcut icon" href="/favicons/favicon.ico">
  <meta name="msapplication-TileColor" content="#603cba">
  <meta name="msapplication-TileImage" content="/favicons/mstile-144x144.png">
  <meta name="msapplication-config" content="/favicons/browserconfig.xml">
  <meta name="theme-color" content="#303284">

  <title>Apache License, Version 2.0</title>
  <link href='https://fonts.googleapis.com/css?family=Source+Sans+Pro:400,700%7cDroid+Serif:400,700'
rel='stylesheet' type='text/css'>
  <link href="/css/min.bootstrap.css" rel="stylesheet">
  <link href="/css/styles.css" rel="stylesheet">
```

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```

```
</head>
```

```

<body>
<!-- Navigation -->
<header>
<nav class="navbar navbar-default navbar-fixed-top">
  <div class="container">
    <div class="navbar-header">
      <button class="navbar-toggle" type="button" data-toggle="collapse" data-target="#mainnav-collapse">
        <span class="sr-only">Toggle navigation</span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <a href="#" class="navbar-brand"><span class="glyphicon glyphicon-home"></span></a>
    </div>
    <div class="collapse navbar-collapse" id="mainnav-collapse">
      <div style="line-height:20px; padding-top:5px; float:left"><a href="/">Home</a>&nbsp;&raquo;&nbsp;&nbsp;<a
href="/licenses/">Licenses</a></div>
      <ul class="nav navbar-nav navbar-right">
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">About <span class="caret"></span></a>
          <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation">Overview</a></li>
            <li><a href="/foundation/members.html">Members</a></li>
            <li><a href="/foundation/how-it-works.html">Process</a></li>
            <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
            <li><a href="/foundation/glossary.html">Glossary</a></li>
            <li><a href="/foundation/preFAQ.html">FAQ</a></li>
            <li><a href="/foundation/contact.html ">Contact</a></li>
          </ul>
        </li>
        <li><a href="/index.html#projects-list">Projects</a></li>
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">People <span class="caret"></span></a>
          <ul class="dropdown-menu" role="menu">
            <li><a href="http://people.apache.org/">Overview</a></li>
            <li><a href="http://people.apache.org/committer-index.html">Committers</a></li>
            <li><a href="/foundation/how-it-works.html#meritocracy">Meritocracy</a></li>
            <li><a href="/foundation/how-it-works.html#roles">Roles</a></li>
            <li><a href="http://planet.apache.org/">Planet Apache</a></li>
          </ul>
        </li>
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">Get Involved <span
class="caret"></span></a>
          <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation/getinvolved.html">Overview</a></li>
            <li><a href="http://community.apache.org/">Community Development</a></li>

```

```

        <li><a href="http://helpwanted.apache.org/">Help Wanted</a></li>
    <li><a href="http://www.apachecon.com/">ApacheCon</a></li>
</ul>
</li>
    <li><a href="/dyn/closer.cgi">Download</a></li>
    <li class="dropdown">
        <a href="#" class="dropdown-toggle" data-toggle="dropdown">Support Apache <span
class="caret"></span></a>
        <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
            <li><a href="/foundation/contributing.html">Donations</a></li>
            <li><a href="/foundation/buy_stuff.html">Buy Stuff</a></li>
            <li><a href="/foundation/thanks.html">Thanks</a></li>
        </ul>
    </li>
</ul>
</div>
</div>
</nav>
</header>
<!-- / Navigation -->
<div class="container">
    <div class="row">
        <div class="col-md-9 col-sm-8 col-xs-12">
            
        </div>
        <div class="col-md-3 col-sm-4 col-xs-12">
            <div class="input-group" style="margin-bottom: 5px;">
                <script>
(function() {
    var cx = '005703438322411770421:5mgshgrgx2u';
    var gcse = document.createElement('script');
    gcse.type = 'text/javascript';
    gcse.async = true;
    gcse.src = (document.location.protocol == 'https:' ? 'https:' : 'http:') +
        '//cse.google.com/cse.js?cx=' + cx;
    var s = document.getElementsByTagName('script')[0];
    s.parentNode.insertBefore(gcse, s);
})();
</script>
            <gcse:searchbox-only></gcse:searchbox-only>
        </div>
        <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/governance/">The Apache Way</a>
        <a role="button" class="btn btn-block btn-default btn-xs"
href="https://community.apache.org/contributors/">Contribute</a>
        <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/thanks.html">ASF Sponsors</a>
    </div>
</div>

```

```

</div>
<div class="container"><style type="text/css">
/* The following code is added by mdx_elementid.py
  It was originally lifted from http://subversion.apache.org/style/site.css */
/*
* Hide class="elementid-permalink", except when an enclosing heading
* has the :hover property.
*/
.headerlink, .elementid-permalink {
  visibility: hidden;
}
h2:hover > .headerlink, h3:hover > .headerlink, h1:hover > .headerlink, h6:hover > .headerlink, h4:hover >
.headerlink, h5:hover > .headerlink, dt:hover > .elementid-permalink { visibility: visible }</style>
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</pre></div></div>

<!-- Footer -->

```

<footer class="bg-primary">
<div class="container">
  <div class="row">
    <br />
    <div class="col-sm-1">

</div>
<div class="col-sm-2">
  <h5 class="white">Community</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="http://community.apache.org/">Overview</a></li>
    <li><a href="/foundation/conferences.html">Conferences</a></li>
    <li><a href="http://community.apache.org/gsoc.html">Summer of Code</a></li>
    <li><a href="http://community.apache.org/newcomers/">Getting Started</a></li>
    <li><a href="/foundation/how-it-works.html">The Apache Way</a></li>
    <li><a href="/travel/">Travel Assistance</a></li>
    <li><a href="/foundation/getinvolved.html">Get Involved</a></li>
    <li><a href="http://community.apache.org/newbiefaq.html">Community FAQ</a></li>
  </ul>
</div>

<div class="col-sm-2">
<h5 class="white">Innovation</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="http://incubator.apache.org/">Incubator</a></li>
    <li><a href="http://labs.apache.org/">Labs</a></li>
    <li><a href="/licenses/">Licensing</a></li>
    <li><a href="/foundation/license-faq.html">Licensing FAQ</a></li>
    <li><a href="/foundation/marks/">Trademark Policy</a></li>
    <li><a href="/foundation/contact.html">Contacts</a></li>
  </ul>
</div>

<div class="col-sm-2">
<h5 class="white">Tech Operations</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="/dev/">Developer Information</a></li>
    <li><a href="/dev/infrastructure.html">Infrastructure</a></li>
    <li><a href="/security/">Security</a></li>
    <li><a href="http://status.apache.org">Status</a></li>
    <li><a href="/foundation/contact.html">Contacts</a></li>
  </ul>
</div>

<div class="col-sm-2">
<h5 class="white">Press</h5>
  <ul class="list-unstyled white" role="menu">

```

```
<li><a href="/press/">Overview</a></li>
<li><a href="https://blogs.apache.org/">ASF News</a></li>
<li><a href="https://blogs.apache.org/foundation/">Announcements</a></li>
<li><a href="https://twitter.com/TheASF">Twitter Feed</a></li>
<li><a href="/press/#contact">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Legal</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/legal/">Legal Affairs</a></li>
<li><a href="/licenses/">Licenses</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/records/">Public Records</a></li>
<li><a href="/foundation/policies/privacy.html">Privacy Policy</a></li>
<li><a href="/licenses/exports/">Export Information</a></li>
<li><a href="/foundation/license-faq.html">License/Distribution FAQ</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-1">
</div>
```

```
</div>
<hr class="col-lg-12 hr-white" />
<div class="row">
<div class="col-lg-12">
<p class="text-center">Copyright &#169; 2016 The Apache Software Foundation, Licensed under the <a
class="white" href="http://www.apache.org/licenses/LICENSE-2.0">Apache License, Version 2.0</a>.</p>
<p class="text-center">Apache and the Apache feather logo are trademarks of The Apache Software
Foundation.</p>
</div>
</div>
</div>
```

```
</footer>
```

```
<!-- / Footer -->
```

```
<script src="/js/jquery-2.1.1.min.js"></script>
<script src="/js/bootstrap.js"></script>
</body>
</html>
```

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```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
```

```
<html><head>
```

```
<title>301 Moved Permanently</title>
```

```
</head><body>
```

```
<h1>Moved Permanently</h1>
```

```
<p>The document has moved <a href="https://opensource.org/licenses/mit-license.php">here</a>.</p>
```

```
</body></html>
```

Format: <http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/>

Upstream-Name: schema-registry

Source: <https://github.com/confluentinc/schema-registry>

Files: \*

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Files: core/\*

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```
cd <SRC_PATH>
mvn package -DskipTests
```

```
mkdir /tmp/jars
mkdir /tmp/overrides
cp package-schema-registry/target/kafka-schema-registry-package-<VERSION>-package/share/java/schema-registry/*.jar /tmp/jars/
cp package-kafka-serde-tools/target/kafka-serde-tools-package-<VERSION>-package/share/java/kafka-serde-tools/*.jar /tmp/jars/
cd <LICENSE_TOOL_PATH>
./bin/run_license_job.bash -i /tmp/jars -l <SRC_PATH>/licenses -n <SRC_PATH>/notices -h <SRC_PATH>/licenses-and-notices.html -o /tmp/overrides
```

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```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
```

```
<html lang="en-US">
```

```
<head>
```

```
<title>GlassFish Dual License Header and License Notice GPL v2 and CDDL</title>
```

```
<meta http-equiv="content-type" content="text/html; charset=UTF-8">
```

```
<style type="text/css">
```

```
li { display: block; }
```

```
</style>
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</head>
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```
<body leftmargin="0" topmargin="0" marginheight="0" marginwidth="0" bgcolor="#ffffff">
```

```
<h3>COMMON DEVELOPMENT AND DISTRIBUTION LICENSE (CDDL) Version 1.0</h3>
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<li><p><b>1. Definitions.</b></p>
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<b>1.1. "Contributor" means each individual or
entity that creates or contributes to the creation of
Modifications.
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<p>

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<p>

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</p>

</li>

</ul>

</body>

</html>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"

"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

```

<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>Untitled Document</title>
</head>

<body>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML>
<!-- @page { margin: 0.79in } P { margin-bottom: 0.08in } H1 { margin-top: 0in; margin-bottom: 0.17in; widows:
0; orphans: 0 } H1.western { font-family: "Times New Roman", serif; font-size: 12pt; font-weight: normal } H1.cjk
{ font-family: "Andale Sans UI"; font-size: 12pt; font-weight: normal } H1.cnl { font-family: "Tahoma"; font-size:
12pt; font-weight: normal } -->
<BODY DIR="LTR">
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One line to give the program's name and a brief idea of what it does.

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The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

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```
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```

```
signature of Ty Coon, 1 April 1989
```

```
Ty Coon, President of Vice
```

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</li>

<p><br />

<br />

</p>

<p><br />

</p>

</body>

</html>

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# Jackson JSON processor

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

It is currently developed by a community of developers, as well as supported commercially by FasterXML.com.

## ## Licensing

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A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.

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Version 2.0, January 2004

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```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
```



```
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta name="description" content="Home page of The Apache Software Foundation">

<link rel="apple-touch-icon" sizes="57x57" href="/favicons/apple-touch-icon-57x57.png">
<link rel="apple-touch-icon" sizes="60x60" href="/favicons/apple-touch-icon-60x60.png">
<link rel="apple-touch-icon" sizes="72x72" href="/favicons/apple-touch-icon-72x72.png">
<link rel="apple-touch-icon" sizes="76x76" href="/favicons/apple-touch-icon-76x76.png">
<link rel="apple-touch-icon" sizes="114x114" href="/favicons/apple-touch-icon-114x114.png">
<link rel="apple-touch-icon" sizes="120x120" href="/favicons/apple-touch-icon-120x120.png">
<link rel="apple-touch-icon" sizes="144x144" href="/favicons/apple-touch-icon-144x144.png">
<link rel="apple-touch-icon" sizes="152x152" href="/favicons/apple-touch-icon-152x152.png">
<link rel="apple-touch-icon" sizes="180x180" href="/favicons/apple-touch-icon-180x180.png">
<link rel="icon" type="image/png" href="/favicons/favicon-32x32.png" sizes="32x32">
<link rel="icon" type="image/png" href="/favicons/favicon-194x194.png" sizes="194x194">
<link rel="icon" type="image/png" href="/favicons/favicon-96x96.png" sizes="96x96">
<link rel="icon" type="image/png" href="/favicons/android-chrome-192x192.png" sizes="192x192">
<link rel="icon" type="image/png" href="/favicons/favicon-16x16.png" sizes="16x16">
<link rel="manifest" href="/favicons/manifest.json">
<link rel="shortcut icon" href="/favicons/favicon.ico">
<meta name="msapplication-TileColor" content="#603cba">
<meta name="msapplication-TileImage" content="/favicons/mstile-144x144.png">
<meta name="msapplication-config" content="/favicons/browserconfig.xml">
<meta name="theme-color" content="#303284">

<title>Licenses</title>
<link href='https://fonts.googleapis.com/css?family=Source+Sans+Pro:400,700%7cDroid+Serif:400,700'
rel='stylesheet' type='text/css'>
<link href="/css/min.bootstrap.css" rel="stylesheet">
<link href="/css/styles.css" rel="stylesheet">
```

```
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permissions and limitations under the License. -->
```

```
</head>
```

```
<body>
```

```
<!-- Navigation -->
```

```
<header>
```

```
<nav class="navbar navbar-default navbar-fixed-top">
```

```
<div class="container">
```

```
<div class="navbar-header">
```

```

<button class="navbar-toggle" type="button" data-toggle="collapse" data-target="#mainnav-collapse">
  <span class="sr-only">Toggle navigation</span>
  <span class="icon-bar"></span>
  <span class="icon-bar"></span>
  <span class="icon-bar"></span>
</button>
<a href="#" class="navbar-brand"><span class="glyphicon glyphicon-home"></span></a>
</div>
<div class="collapse navbar-collapse" id="mainnav-collapse">
  <div style="line-height:20px; padding-top:5px; float:left"><a href="/">Home</a>&nbsp;&raquo;&nbsp;&nbsp;<a
href="/licenses/">Licenses</a></div>
  <ul class="nav navbar-nav navbar-right">
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">About <span class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">
        <li><a href="/foundation">Overview</a></li>
        <li><a href="/foundation/members.html">Members</a></li>
        <li><a href="/foundation/how-it-works.html">Process</a></li>
        <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
        <li><a href="/foundation/glossary.html">Glossary</a></li>
        <li><a href="/foundation/preFAQ.html">FAQ</a></li>
        <li><a href="/foundation/contact.html ">Contact</a></li>
      </ul>
    </li>
    <li><a href="/index.html#projects-list">Projects</a></li>
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">People <span class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">
        <li><a href="http://people.apache.org/">Overview</a></li>
        <li><a href="http://people.apache.org/committer-index.html">Committers</a></li>
        <li><a href="/foundation/how-it-works.html#meritocracy">Meritocracy</a></li>
        <li><a href="/foundation/how-it-works.html#roles">Roles</a></li>
        <li><a href="http://planet.apache.org/">Planet Apache</a></li>
      </ul>
    </li>
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">Get Involved <span
class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">
        <li><a href="/foundation/getinvolved.html">Overview</a></li>
        <li><a href="http://community.apache.org/">Community Development</a></li>
        <li><a href="http://helpwanted.apache.org/">Help Wanted</a></li>
        <li><a href="http://www.apachecon.com/">ApacheCon</a></li>
      </ul>
    </li>
    <li><a href="/dyn/closer.cgi">Download</a></li>
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">Support Apache <span

```

```

class="caret"></span></a>
  <ul class="dropdown-menu" role="menu">
  <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
  <li><a href="/foundation/contributing.html">Donations</a></li>
  <li><a href="/foundation/buy_stuff.html">Buy Stuff</a></li>
  <li><a href="/foundation/thanks.html">Thanks</a></li>
  </ul>
</li>
</ul>
</div>
</div>
</nav>
</header>
<!-- / Navigation -->
<div class="container">
<div class="row">
  <div class="col-md-9 col-sm-8 col-xs-12">
    
  </div>
  <div class="col-md-3 col-sm-4 col-xs-12">
    <div class="input-group" style="margin-bottom: 5px;">
      <script>
(function() {
var cx = '005703438322411770421:5mgshgrgx2u';
var gcse = document.createElement('script');
gcse.type = 'text/javascript';
gcse.async = true;
gcse.src = (document.location.protocol == 'https:' ? 'https:' : 'http:') +
  '//cse.google.com/cse.js?cx=' + cx;
var s = document.getElementsByTagName('script')[0];
s.parentNode.insertBefore(gcse, s);
})();
</script>
  <gcse:searchbox-only></gcse:searchbox-only>
</div>
  <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/governance/">The Apache Way</a>
  <a role="button" class="btn btn-block btn-default btn-xs"
href="https://community.apache.org/contributors/">Contribute</a>
  <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/thanks.html">ASF Sponsors</a>
</div>
</div>
</div>
<div class="container"><style type="text/css">
/* The following code is added by mdx_elementid.py
It was originally lifted from http://subversion.apache.org/style/site.css */
/*
* Hide class="elementid-permalink", except when an enclosing heading
* has the :hover property.

```

```

*/
.headerlink, .elementid-permalink {
  visibility: hidden;
}
h2:hover > .headerlink, h3:hover > .headerlink, h1:hover > .headerlink, h6:hover > .headerlink, h4:hover >
.headerlink, h5:hover > .headerlink, dt:hover > .elementid-permalink { visibility: visible }</style>
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*.</p>
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link">&para;</a></h3>

```

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<blockquote>

<p>gpg --armor --detach-sign icla.pdf</p>

</blockquote>

<p>The above will create a file icla.pdf.asc. Send both the file and signature as attachments in the same email to secretary@apache.org. Please send only one document (file plus signature) per email. Please do not submit your public key to Apache. Instead, please upload your public key to pgpkeys.mit.edu. </p>

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<h1 id="trademarks">Trademark and Logo Usage<a class="headerlink" href="#trademarks" title="Permanent link">&para;</a></h1>

<p>For ASF trademark and logo usage information, please consult our <a href="/foundation/marks/">ASF Trademark Use Policy</a> page.</p>

<h1 id="questions">Questions?<a class="headerlink" href="#questions" title="Permanent link">&para;</a></h1>

<p>For answers to frequently asked licensing questions, please consult our <a href="/foundation/license-faq.html">Licensing Frequently Asked Questions</a> page.</p></div>

<!-- Footer -->

<footer class="bg-primary">

<div class="container">

<div class="row">

<br />

<div class="col-sm-1">

</div>

<div class="col-sm-2">

<h5 class="white">Community</h5>

<ul class="list-unstyled white" role="menu">

<li><a href="http://community.apache.org/">Overview</a></li>

<li><a href="/foundation/conferences.html">Conferences</a></li>

<li><a href="http://community.apache.org/gsoc.html">Summer of Code</a></li>

<li><a href="http://community.apache.org/newcomers/">Getting Started</a></li>

```
<li><a href="/foundation/how-it-works.html">The Apache Way</a></li>
<li><a href="/travel/">Travel Assistance</a></li>
<li><a href="/foundation/getinvolved.html">Get Involved</a></li>
<li><a href="http://community.apache.org/newbiefaq.html">Community FAQ</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Innovation</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="http://incubator.apache.org/">Incubator</a></li>
<li><a href="http://labs.apache.org/">Labs</a></li>
<li><a href="/licenses/">Licensing</a></li>
<li><a href="/foundation/license-faq.html">Licensing FAQ</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Tech Operations</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/dev/">Developer Information</a></li>
<li><a href="/dev/infrastructure.html">Infrastructure</a></li>
<li><a href="/security/">Security</a></li>
<li><a href="http://status.apache.org">Status</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Press</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/press/">Overview</a></li>
<li><a href="https://blogs.apache.org/">ASF News</a></li>
<li><a href="https://blogs.apache.org/foundation/">Announcements</a></li>
<li><a href="https://twitter.com/TheASF">Twitter Feed</a></li>
<li><a href="/press/#contact">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Legal</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/legal/">Legal Affairs</a></li>
<li><a href="/licenses/">Licenses</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/records/">Public Records</a></li>
</ul>
```

```
<li><a href="/foundation/policies/privacy.html">Privacy Policy</a></li>
<li><a href="/licenses/exports/">Export Information</a></li>
<li><a href="/foundation/license-faq.html">License/Distribution FAQ</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>

<div class="col-sm-1">
</div>

</div>
<hr class="col-lg-12 hr-white" />
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<div class="col-lg-12">
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</div>

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<!-- / Footer -->

<script src="/js/jquery-2.1.1.min.js"></script>
<script src="/js/bootstrap.js"></script>
</body>
</html>
```

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## 1.38 micronaut-buffer-netty 3.9.4

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```
* /opt/cola/permits/1743477387_1689201643.8414872/0/micronaut-buffer-netty-3-9-4-sources-
jar/io/micronaut/buffer/netty/DefaultByteBufAllocatorConfiguration.java
* /opt/cola/permits/1743477387_1689201643.8414872/0/micronaut-buffer-netty-3-9-4-sources-
jar/io/micronaut/buffer/netty/ByteBufAllocatorConfiguration.java
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- \* /opt/cola/permits/1743477387\_1689201643.8414872/0/micronaut-buffer-netty-3-9-4-sources-jar/io/micronaut/buffer/netty/NettyFeature.java
- \* /opt/cola/permits/1743477387\_1689201643.8414872/0/micronaut-buffer-netty-3-9-4-sources-jar/io/micronaut/buffer/netty/package-info.java
- \* /opt/cola/permits/1743477387\_1689201643.8414872/0/micronaut-buffer-netty-3-9-4-sources-jar/io/micronaut/buffer/netty/NettyByteBuffer.java
- \* /opt/cola/permits/1743477387\_1689201643.8414872/0/micronaut-buffer-netty-3-9-4-sources-jar/io/micronaut/buffer/netty/NettyByteBufferFactory.java

# 1.39 httpcomponents-core 4.4.13

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Found in path(s):

```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-jar/google/api/launch_stage.proto
```

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```
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/usage.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/endpoint.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/service.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/consumer.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/distribution.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/error_reason.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/context.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/date.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/quota.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/field_behavior.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/httpbody.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/routing.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/system_parameter.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/datetime.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/color.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/billing.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/logging/type/log_severity.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/decimal.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/config_change.proto  
* /opt/cola/permits/1572890195_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-
```

jar/google/type/latlng.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/metric.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/control.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/money.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/month.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/logging.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/client.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/log.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/timeofday.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/geo/type/viewport.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/status.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/fraction.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/documentation.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/interval.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/postal\_address.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/logging/type/http\_request.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/dayofweek.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/source\_info.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/label.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/quaternion.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/error\_details.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/backend.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/expr.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/annotations.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-

jar/google/longrunning/operations.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/code.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/type/calendar\_period.proto  
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jar/google/type/phone\_number.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/resource.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/api/http.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/cloud/extended\_operations.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
jar/google/rpc/context/attribute\_context.proto  
\* /opt/cola/permits/1572890195\_1677106955.5681205/0/proto-google-common-protos-2-9-0-1-  
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## 1.41 lz4 1.9.3

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Upstream-Name: liblz4

Upstream-Contact: Yann Collet <Cyan4973@github.com>



Source: <https://github.com/lz4/lz4>

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Component	Location	License
Main Mesa code	src/mesa/	MIT
Device drivers	src/mesa/drivers/*	MIT, generally

Gallium code src/gallium/ MIT

Ext headers GL/glxt.h Khronos  
GL/glxt.h Khronos  
GL/wglxt.h Khronos  
KHR/khrplatform.h Khronos

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include/GL/gl.h :

Mesa 3-D graphics library

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## Bert Belder: wepoll v 1.5.8

### wepoll License

...

wepoll - epoll for Windows

<https://github.com/piscisaureus/wepoll>

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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/util/locale/CompositeHttpLocaleResolver.java

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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/util/locale/HttpFixedLocaleResolver.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/exceptions/UnsatisfiedRouteHandler.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/util/DefaultHttpClientAddressResolver.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/util/HttpClientAddressResolver.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/util/locale/HttpAbstractLocaleResolver.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/codec/package-info.java

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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/cors/package-info.java

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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/types/files/SystemFile.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/exceptions/ContentLengthExceededHandler.java

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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/context/ServerRequestContextInvocationInstrumenter.java

\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/exceptions/URISyntaxHandler.java

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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/binding/package-info.java  
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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/multipart/package-info.java  
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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/types/files/package-info.java  
\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/util/package-info.java  
\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/types/package-info.java  
\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/exceptions/InternalServerException.java  
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\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/exceptions/ConversionErrorHandler.java  
\* /opt/cola/permits/1743477409\_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-jar/io/micronaut/http/server/cors/CorsUtil.java

```
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
jar/io/micronaut/http/server/HttpServerConfiguration.java
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
jar/io/micronaut/http/server/cors/CorsOriginConfiguration.java
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
jar/io/micronaut/http/server/websocket/ServerWebSocketProcessor.java
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
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jar/io/micronaut/http/server/util/locale/HttpLocalizedMessageSource.java
```

```
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
jar/io/micronaut/http/server/cors/CrossOrigin.java
```

```
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
jar/io/micronaut/http/server/exceptions/response/HateoasErrorResponseProcessorReplacement.java
```

```
* /opt/cola/permits/1743477409_1689201624.5700321/0/micronaut-http-server-3-9-4-sources-
jar/io/micronaut/http/server/cors/CrossOriginUtil.java
```

## 1.47 failureaccess 1.0.1

## 1.48 zstd 1.5.2

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\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyClientCustomizer.java

\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/ConnectionManager.java

\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/SimpleChannelInboundHandlerInstrumented.java

\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/ForwardingSubscriber.java

\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyPromiseSubscriber.java

\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/CompositeNettyClientCustomizer.java

\* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyFuturePublisher.java

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- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyClientHttpRequestFactory.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/ConnectTTLHandler.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/IdlingConnectionHandler.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/ssl/NettyClientSslBuilder.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/DefaultNettyHttpClientRegistry.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/websocket/package-info.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/IdleTimeoutHandler.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/websocket/NettyWebSocketClientHandler.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/FullNettyClientHttpResponse.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyClientHttpRequest.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/ssl/package-info.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyStreamedHttpResponse.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/converters/package-info.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/NettyHttpClientFactory.java
- \* /opt/cola/permits/1743477369\_1689201628.218953/0/micronaut-http-client-3-9-4-sources-jar/io/micronaut/http/client/netty/package-info.java

## 1.50 javassist 3.27.0-GA



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```
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* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/Proxy.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Visitor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/Member.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/reflect/CannotInvokeException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/CtNewWrappedConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/LoaderClassPath.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/rmi/AppletServer.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtConstructor.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/tools/rmi/ObjectNotFoundException.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/compiler/ast/ArrayInit.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/Mnemonic.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/bytecode/SignatureAttribute.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtArray.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/convert/TransformNewClass.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/Parser.java
* /opt/cola/permits/1135872664_1613621010.52/0/javassist-3-27-0-ga-sources-1-
jar/javassist/util/proxy/DefineClassHelper.java
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/analysis/SubroutineScanner.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtMember.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ExceptionTable.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/StubGenerator.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/CodeGen.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/CannotReflectException.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolFactoryImpl.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/LocalVariableAttribute.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPoolFactory.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/Modifier.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/AnnotationsWriter.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Expr.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/NewExpr.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtMethod.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/CondExpr.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/scopedpool/ScopedClassPool.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/CannotCreateException.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/EnclosingMethodAttribute.java  
\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/BinExpr.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/ClassMap.java  
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\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/ClassMetaobject.java

- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/NestHostAttribute.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/AccessFlag.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/ASTree.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/StackMap.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/NotFoundException.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Metalevel.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Variable.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/reflect/Sample.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/expr/Instanceof.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ClassFilePrinter.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Stmnt.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/framedump.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/AnnotationImpl.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/AssignExpr.java
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- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ConstantAttribute.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/runtime/Desc.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/ProxyFactory.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/util/proxy/FactoryHelper.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtNewMethod.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/tools/rmi/RemoteException.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/InstanceOfExpr.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Declarator.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtClassType.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/annotation/NoSuchClassError.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/CtBehavior.java
- \* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/compiler/ast/Expr.java

\* /opt/cola/permits/1135872664\_1613621010.52/0/javassist-3-27-0-ga-sources-1-jar/javassist/bytecode/ByteArray.java  
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## 1.51 guava 31.0.1-android

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableBiMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/StandardTable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMultimap.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableListMultimap.java

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

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/AbstractHashFunction.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/RemovalListeners.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedMapDifference.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/Quantiles.java

\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/SubscriberRegistry.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/Dispatcher.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/MoreObjects.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ListenerCallQueue.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/Subscriber.java

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

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

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

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

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

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

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

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

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

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/SubscriberExceptionContext.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/TypeVisitor.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/HashingInputStream.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/CharSequenceReader.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Utf8.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractTable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/VerifyException.java

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberExceptionHandler.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Verify.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredMultimapValues.java
```

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```

```
*/
```

```
/**
```

```
* Holder for extra methods of {@code Objects} only in web. Intended to be empty for regular
* version.
```

```
*/
```

Found in path(s):

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

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- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractValueGraph.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MapRetrievalCache.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/DirectedNetworkConnections.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ForwardingNetwork.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/UndirectedGraphConnections.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Comparators.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/EdgesConnecting.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/NetworkBuilder.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardMutableValueGraph.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardNetwork.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ForwardingValueGraph.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ValueGraphBuilder.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MapIteratorCache.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardMutableGraph.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/NetworkConnections.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphBuilder.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractDirectedNetworkConnections.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedHashMultimapGwtSerializationDependencies.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardValueGraph.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphConstants.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/collect/RangeGwtSerializationDependencies.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/EndpointPairIterator.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/ImmutableValueGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/EndpointPair.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/GraphConnections.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/UndirectedMultiNetworkConnections.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/ValueGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/ForwardingGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/MultiEdgesConnecting.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/MutableValueGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/UndirectedNetworkConnections.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/AbstractGraphBuilder.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/DirectedMultiNetworkConnections.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/StandardMutableNetwork.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/DirectedGraphConnections.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/AbstractNetwork.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/ElementOrder.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/AbstractGraph.java  
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*/
/**
* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular
* version.
*/
```

Found in path(s):

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

Found in path(s):

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

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

Found in path(s):

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

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

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

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

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

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

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

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

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

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

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/Graph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/SuccessorsFunction.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MutableGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/Network.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/PredecessorsFunction.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/Graphs.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TopKSelector.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MutableNetwork.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ImmutableGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ImmutableNetwork.java

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactLinkedHashSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RangeMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingDeque.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredEntrySetMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EvictingQueue.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredKeyListMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredSetMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/UnmodifiableSortedMultiset.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TransformedIterator.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeRangeMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeTraverser.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedMultisetBridge.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AllEqualOrdering.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactHashSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingNavigableMap.java

\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactHashMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableEnumMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingNavigableSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/DescendingMultiset.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredKeySetMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactLinkedHashMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TransformedListIterator.java

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

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

Found in path(s):

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

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

\* key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy

\* version.

\*

\* @throws UnsupportedOperationException always

\* @deprecated <b>Pass a key of type {@code Comparable} to use {@link

\* ImmutableSortedMap#of(Comparable, Object)}.</b>

\*/

Found in path(s):

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

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

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

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

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

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

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

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Files.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/AbstractIterator.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/DeadEvent.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/package-info.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizablePhantomReference.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizableReferenceQueue.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Interners.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/CharStreams.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Closeables.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Defaults.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Flushables.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Throwables.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/HashBiMap.java

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/LittleEndianDataInputStream.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Resources.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/package-info.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EnumMultiset.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/package-info.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ObjectCountLinkedHashMap.java

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

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

jar/com/google/common/graph/AbstractBaseGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/Traverser.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/graph/BaseGraph.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ObjectCountHashMap.java  
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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/html/package-info.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/BaseEncoding.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/ByteSink.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/StandardSystemProperty.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/CartesianList.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/ServiceManager.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableRangeMap.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/math/PairedStatsAccumulator.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/hash/AbstractByteHasher.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/Closer.java  
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
```

jar/com/google/common/math/PairedStats.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/hash/SipHashFunction.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/hash/LongAddable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/xml/package-info.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/ClassPath.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/CharSink.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/package-info.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/hash/ChecksumHashFunction.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/TypeCapture.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/escape/package-info.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/FilteredKeyMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/FileWriteMode.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableRangeSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/cache/LongAddable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/CharSource.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/TypeToInstanceMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/math/LinearTransformation.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/ListenableScheduledFuture.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/SmoothRateLimiter.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/RateLimiter.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/hash/LongAddables.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/ByteSource.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/math/StatsAccumulator.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/math/Stats.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/cache/LongAddables.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/Parameter.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/reflect/AbstractInvocationHandler.java  
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/*
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/MoreExecutors.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/IncidentEdgeSet.java

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

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

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

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

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

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

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

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

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

jar/com/google/common/collect/EmptyImmutableSetMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableClassToInstanceMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableEnumSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ComparisonChain.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableAsList.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/SingletonImmutableTable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/RegularImmutableList.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/DiscreteDomain.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/ForwardingTable.java

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jar/com/google/common/primitives/Floats.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/SequentialExecutor.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/primitives/Shorts.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/primitives/Ints.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/net/InetAddresses.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-



jar/com/google/common/primitives/Longs.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/MultiReader.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/escape/UnicodeEscaper.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/primitives/Doubles.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/util/concurrent/ListenableFutureTask.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/primitives/Chars.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/net/PercentEscaper.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/internal/Finalizer.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/CharMatcher.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/thirdparty/publicsuffix/TrieParser.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/Joiner.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/escape/Escaper.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/Converter.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/primitives/Booleans.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/Stopwatch.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/FluentIterable.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/primitives/Bytes.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/io/FileBackedOutputStream.java  
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/**
* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
* under GWT but with a slightly different signature.
*
* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize
* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
* compiler to autostrip the normal server method in order to expose the special, inherited GWT
* version.
*/
```

Found in path(s):

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

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

\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingListIterator.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedListMultimap.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Ordering.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSet.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeMultiset.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Sets.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingCollection.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Synchronized.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ArrayListMultimap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSortedSet.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ClassToInstanceMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Iterators.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Interner.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/BiMap.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Iterables.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/MapMakerInternalMap.java

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

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

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

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\* <http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp>, which contained the  
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- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Count.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RangeSet.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSortedMultiset.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java
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- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/ParametricNullness.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/ParametricNullness.java
- \* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/ElementTypesAreNonnullByDefault.java

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

\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/TimeoutFuture.java

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

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

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

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

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

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

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

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

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

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

\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Futures.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AbstractCatchingFuture.java  
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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AggregateFuture.java  
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 */
/**
 * Holder for web specializations of methods of { @code Doubles }. Intended to be empty for regular
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 */
```

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\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/DoublesMethodsForWeb.java  
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jar/com/google/common/util/concurrent/NullnessCasts.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/base/NullnessCasts.java  
\* /opt/cola/permits/1312950193\_1650560245.64/0/guava-31-0-1-android-sources-1-  
jar/com/google/common/collect/NullnessCasts.java

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\* This method was rewritten in Java from an intermediate step of the Murmur hash function in

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

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\*

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

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

Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
```

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Found in path(s):

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/HashBasedTable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/StandardRowSortedTable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableMapValues.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/PeekingIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/CollectPreconditions.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/RegularImmutableBiMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/EmptyImmutableListMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableCollection.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Serialization.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/UnmodifiableIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Range.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/TreeBasedTable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Collections2.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableSortedSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableEntry.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-

```
jar/com/google/common/collect/ImmutableMultiset.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableMapKeySet.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableListMultimap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/Table.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/Tables.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/Platform.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/RegularImmutableMap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableMapEntrySet.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/StandardTable.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableBiMap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableMultimap.java
```

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```
*/
```

Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/util/concurrent/ExecutionSequencer.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/hash/ImmutableSupplier.java
```

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/Fingerprint2011.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/package-info.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Interners.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ExecutionList.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/FinalizableWeakReference.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/CountingOutputStream.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/package-info.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/FinalizableSoftReference.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/AbstractFuture.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Function.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/LineBuffer.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/FinalizablePhantomReference.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/DirectExecutor.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/EnumMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Predicate.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/LineReader.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/AbstractIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Objects.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Throwables.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ByteStreams.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Supplier.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/Subscribe.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/Flushables.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/MultiInputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Suppliers.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/LittleEndianDataInputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Functions.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/DeadEvent.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/Files.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/FinalizableReferenceQueue.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/EventBus.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Defaults.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/AllowConcurrentEvents.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Charsets.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/Primitives.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/LittleEndianDataOutputStream.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Predicates.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/CharStreams.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/FinalizableReference.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/Resources.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Preconditions.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/CountingInputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/AsyncEventBus.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/HashBiMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/Closeables.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ListenableFuture.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/NullnessCasts.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/NullnessCasts.java

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jar/com/google/common/base/PatternCompiler.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/JdkPattern.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/CommonPattern.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/CommonMatcher.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/ForwardingSortedMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/RangeSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/RegularImmutableSortedMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SortedIterables.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableSortedMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Count.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/GeneralRange.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractRangeSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SortedIterable.java  
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\*/  
/\*\*  
\* Returns an array containing all of the elements in the specified collection. This method  
\* returns the elements in the order they are returned by the collection's iterator. The returned  
\* array is "safe" in that no references to it are maintained by the collection. The caller is  
\* thus free to modify the returned array.  
\*  
\* <p>This method assumes that the collection size doesn't change while the method is running.  
\*  
\* <p>TODO(kevinb): support concurrently modified collections?  
\*  
\* @param c the collection for which to return an array of elements  
\*/

Found in path(s):  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ObjectArrays.java  
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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/MutableValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/MultiEdgesConnecting.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ForwardingValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/DirectedGraphConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/GraphBuilder.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/GraphConstants.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/MapIteratorCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/EndpointPairIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/RangeGwtSerializationDependencies.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractDirectedNetworkConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ElementOrder.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ForwardingNetwork.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/MapRetrievalCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Comparators.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractGraph.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ForwardingGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/StandardMutableValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/StandardValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/DirectedMultiNetworkConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/NetworkBuilder.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractNetwork.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractGraphBuilder.java  
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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/StandardMutableGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/UndirectedGraphConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/UndirectedNetworkConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/GraphConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/LinkedHashMultimapGwtSerializationDependencies.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/DirectedNetworkConnections.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/StandardMutableNetwork.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/EdgesConnecting.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ValueGraphBuilder.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ImmutableValueGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/NetworkConnections.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/EndpointPair.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/UndirectedMultiNetworkConnections.java  
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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/EvictingQueue.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/FilteredKeySetMultimap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/TransformedIterator.java

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jar/com/google/common/collect/SortedMultisetBridge.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/FilteredKeyListMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/TransformedListIterator.java  
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jar/com/google/common/collect/ForwardingDeque.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/TreeTraverser.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/AbstractNavigableMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java  
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jar/com/google/common/collect/FilteredSetMultimap.java  
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jar/com/google/common/collect/RangeMap.java  
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jar/com/google/common/collect/TreeRangeMap.java  
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jar/com/google/common/collect/ForwardingNavigableSet.java  
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jar/com/google/common/collect/ForwardingBlockingDeque.java  
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jar/com/google/common/collect/UnmodifiableSortedMultiset.java  
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jar/com/google/common/collect/ImmutableEnumMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/FilteredEntryMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/DescendingMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/ForwardingImmutableSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/AbstractMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/FilteredMultimap.java  
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jar/com/google/common/collect/FilteredEntrySetMultimap.java  
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jar/com/google/common/collect/ForwardingImmutableMap.java  
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jar/com/google/common/util/concurrent/CombinedFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AggregateFutureState.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/io/ReaderInputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/MacHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/FarmHashFingerprint64.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/Platform.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/ConsumingQueueIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/LittleEndianByteArray.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/InterruptibleTask.java  
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jar/com/google/common/util/concurrent/AsyncCallable.java

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jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/net/package-info.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/SortedLists.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/Strings.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ContiguousSet.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
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* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/util/concurrent/Atomics.java
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jar/com/google/common/util/concurrent/ListeningExecutorService.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/annotations/package-info.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/Ascii.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/package-info.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/util/concurrent/Monitor.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java
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jar/com/google/common/base/Equivalence.java
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* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableTable.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableClassToInstanceMap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/RegularImmutableList.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/RegularImmutableSortedSet.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ForwardingTable.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ArrayTable.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/EmptyImmutableSetMultimap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/SingletonImmutableTable.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableAsList.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ComparisonChain.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableSortedMap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ImmutableSetMultimap.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/ComputationException.java
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jar/com/google/common/collect/AbstractIndexedListIterator.java  
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*/  
/**  
* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular  
* version.  
*/
```

Found in path(s):

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/IntsMethodsForWeb.java

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Found in path(s):

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/MultimapBuilder.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/TypeVisitor.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Utf8.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-

jar/com/google/common/io/CharSequenceReader.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/eventbus/SubscriberExceptionHandler.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/Runnables.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/Verify.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/AbstractTable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/eventbus/SubscriberExceptionContext.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/HashingInputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/FilteredMultimapValues.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/VerifyException.java  
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express  
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* the License.  
*/  
/*  
* This following method is a modified version of one found in  
* http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30  
* which contained the following notice:  
*  
* Written by Doug Lea with assistance from members of JCP JSR-166 Expert Group and released to  
* the public domain, as explained at http://creativecommons.org/publicdomain/zero/1.0/  
*  
* Other contributors include Andrew Wright, Jeffrey Hayes, Pat Fisher, Mike Judd.  
*/
```



Found in path(s):

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/MoreExecutors.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/HashMultiset.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/EnumHashBiMap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingCollection.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingQueue.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingMap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Interner.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingSortedSet.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Iterables.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ListMultimap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableSet.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/NullsLastOrdering.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SingletonImmutableSet.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Multimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SortedSetMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/TreeMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Maps.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Multiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ComparatorOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ClassToInstanceMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingList.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Multimaps.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingObject.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Synchronized.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingMapEntry.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ArrayListMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractBiMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/MutableClassToInstanceMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Ordering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractMapEntry.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingConcurrentMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Multisets.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/EnumBiMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/LexicographicalOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ByFunctionOrdering.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ConcurrentHashMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableList.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/LinkedHashMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ReverseNaturalOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ReverseOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractSetMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Sets.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/HashMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Iterators.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/NullsFirstOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/Lists.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/TreeMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/RegularImmutableSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/LinkedHashMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/LinkedListMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingSortedMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractMapBasedMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/MapDifference.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/NaturalOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractSortedSetMultimap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractMapBasedMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/CompoundOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SetMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/UsingToStringOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ExplicitOrdering.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingListIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingIterator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractListMultimap.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/PredecessorsFunction.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/MutableNetwork.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/Graphs.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/MutableGraph.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ImmutableNetwork.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-

jar/com/google/common/graph/Graph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/graph/ImmutableGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/graph/Network.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/graph/SuccessorsFunction.java  
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jar/com/google/common/cache/LoadingCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Crc32cHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Hasher.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/MessageDigestHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/AbstractNonStreamingHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/AbstractCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/CacheBuilderSpec.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/RemovalCause.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/Cache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/CycleDetectingLockFactory.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/primitives/UnsignedLongs.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-

jar/com/google/common/math/DoubleMath.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/math/IntMath.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/BloomFilterStrategies.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/HashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/math/DoubleUtils.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/ExecutionError.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/WrappingExecutorService.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/ForwardingExecutorService.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AtomicLongMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Funnels.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/PairwiseEquivalence.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Funnel.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/PrimitiveSink.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Hashing.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/math/LongMath.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/FunctionalEquivalence.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/math/MathPreconditions.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/AbstractHasher.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/BoundType.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/FutureCallback.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/Optional.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/math/BigIntegerMath.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-

jar/com/google/common/primitives/UnsignedInts.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/AbstractSortedMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/reflect/Types.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/HashCode.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/net/HostAndPort.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java  
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jar/com/google/common/net/HttpHeaders.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Murmur3\_32HashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/primitives/ParseRequest.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/RemovalListeners.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/RemovalListener.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/Weigher.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/Uninterruptibles.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/AbstractLoadingCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/primitives/UnsignedInteger.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/Queues.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/primitives/UnsignedLong.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/Absent.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/CacheStats.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/RegularContiguousSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/ForwardingLoadingCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-

jar/com/google/common/cache/RemovalNotification.java  
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jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/AbstractStreamingHasher.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/TreeRangeSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/HashingOutputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/Present.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/DescendingImmutableSortedMultiset.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/net/MediaType.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/ForwardingCache.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AbstractScheduledService.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AsyncFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/BloomFilter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/Murmur3\_128HashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/cache/CacheLoader.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/UncheckedExecutionException.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/EmptyContiguousSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/reflect/TypeParameter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/hash/AbstractCompositeHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/collect/RegularImmutableMultiset.java  
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- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/AbstractSequentialIterator.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/UnmodifiableListIterator.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingSetMultimap.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingListMultimap.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingSortedSetMultimap.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ForwardingImmutableCollection.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SortedMapDifference.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/MinMaxPriorityQueue.java
- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/RowSortedTable.java

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- \* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/Platform.java

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Found in path(s):

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* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Shorts.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Chars.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/io/MultiReader.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Bytes.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/Stopwatch.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/escape/Escaper.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/CharMatcher.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/Joiner.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Floats.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/escape/UnicodeEscaper.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Ints.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Booleans.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/util/concurrent/SequentialExecutor.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/net/PercentEscaper.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/Doubles.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/internal/Finalizer.java
```

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ListenableFutureTask.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/FileBackedOutputStream.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Converter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/net/InetAddresses.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/Longs.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/thirdparty/publicsuffix/TrieParser.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/FluentIterable.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/ArrayBasedCharEscaper.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/net/InternetDomainName.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/cache/CacheBuilder.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Splitter.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/annotations/GwtIncompatible.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/TypeResolver.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/Service.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/net/HostSpecifier.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/cache/ReferenceEntry.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/Callables.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/cache/LocalCache.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/annotations/GwtCompatible.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/UnsignedBytes.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Platform.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ByteArrayDataOutput.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/ArrayBasedEscaperMap.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/Platform.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ForwardingListenableFuture.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/SparseImmutableTable.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/JdkFutureAdapters.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ByteArrayDataInput.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/DenseImmutableTable.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/net/UrlEscapers.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/AbstractService.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/MapMakerInternalMap.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/Escapers.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/SignedBytes.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ByteProcessor.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ForwardingFluentFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/LineProcessor.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/SettableFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/html/HtmlEscapers.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/AbstractIdleService.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/Java8Compatibility.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/ToDoubleRounder.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/BigDecimalMath.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/Java8Compatibility.java

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Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/graph/IncidentEdgeSet.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/CompactHashing.java
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Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/io/ParametricNullness.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/xml/ParametricNullness.java
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/net/ParametricNullness.java
```

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/xml/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/html/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/cache/ParametricNullness.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/net/ElementTypesAreNonnullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/html/ElementTypesAreNonnullByDefault.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ElementTypesAreNonNullByDefault.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/ParametricNullness.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ListenerCallQueue.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/Subscriber.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/Dispatcher.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/Quantiles.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/eventbus/SubscriberRegistry.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/MoreObjects.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/ImmutableLongArray.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/ImmutableDoubleArray.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ForwardingCondition.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ForwardingLock.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/primitives/ImmutableIntArray.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/AbstractHashFunction.java

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*/
/*
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
* following header:
*
* MurmurHash3 was written by Austin Appleby, and is placed in the public domain. The author
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*/
```

Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/collect/Hashing.java
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jar/com/google/common/base/SmallCharMatcher.java
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/\*\*

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

\* version.

\*/

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

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AbstractCatchingFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/GwtFluentFutureCatchingSpecialization.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AbstractTransformFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/AggregateFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/ImmediateFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/io/PatternFilenameFilter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/escape/CharEscaperBuilder.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/Futures.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/CollectionFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/TimeLimiter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/FuturesGetChecked.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/base/CaseFormat.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/FluentFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/io/AppendableWriter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/reflect/TypeToken.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/SimpleTimeLimiter.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/TimeoutFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/CharEscaper.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/UncheckedTimeoutException.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/FakeTimeLimiter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/annotations/VisibleForTesting.java

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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/LongAddable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/PairedStatsAccumulator.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/CharSink.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/CartesianList.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ServiceManager.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/ClassPath.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/cache/LongAddables.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/xml/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/SipHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableRangeSet.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/TypeCapture.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/CharSource.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/Stats.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/FilteredKeyMultimap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/escape/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/SmoothRateLimiter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ByteSource.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/LongAddables.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/Closer.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/base/StandardSystemProperty.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/ChecksumHashFunction.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ImmutableRangeMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/TypeToInstanceMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/FileWriteMode.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/RateLimiter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/html/package-info.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/Parameter.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/StatsAccumulator.java

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/math/PairedStats.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/BaseEncoding.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/cache/LongAddable.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/hash/AbstractByteHasher.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/io/ByteSink.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/reflect/AbstractInvocationHandler.java  
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\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ObjectCountHashMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/Traverser.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/BaseGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/graph/AbstractBaseGraph.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/collect/ObjectCountLinkedHashMap.java  
\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-jar/com/google/common/util/concurrent/ClosingFuture.java  
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jar/com/google/common/util/concurrent/ServiceManagerBridge.java  
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jar/com/google/common/graph/package-info.java  
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```
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express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/**
* Holder for web specializations of methods of { @code Doubles}. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/DoublesMethodsForWeb.java
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express
* or implied. See the License for the specific language governing permissions and limitations under
* the License.
*/
/**
* Holder for extra methods of { @code Objects} only in web. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
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\* or implied. See the License for the specific language governing permissions and limitations under  
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\*/  
/\*  
\* This method was written by Doug Lea with assistance from members of JCP JSR-166 Expert Group  
\* and released to the public domain, as explained at  
\* <http://creativecommons.org/licenses/publicdomain>  
\*  
\* As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's  
\* `java.util.HashMap` class.  
\*/

Found in path(s):

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/Striped.java  
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\*/  
/\*\*  
\* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain  
\* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available  
\* under GWT but with a slightly different signature.  
\*  
\* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize  
\* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT  
\* compiler to autostrip the normal server method in order to expose the special, inherited GWT  
\* version.  
\*/

Found in path(s):

\* /opt/cola/permits/1317673400\_1651156530.58/0/guava-31-1-android-sources-  
jar/com/google/common/util/concurrent/Partially.java

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

Found in path(s):

```
* /opt/cola/permits/1317673400_1651156530.58/0/guava-31-1-android-sources-
jar/com/google/common/primitives/ShortsMethodsForWeb.java
```

## 1.54 micronaut-context 3.9.4

### 1.54.1 Available under license :

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/converters/reactive/ReactiveTypeConverterRegistrar.java  
\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/refresh/RefreshEventListener.java  
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*MapClaims.java  
* Note: rewritten to standard Java 8 DateTime by zemiak (c) 2016  
* Forked from: https://github.com/frode-carlsen/cron  
*/
```

Found in path(s):

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/cron/CronExpression.java  
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jar/io/micronaut/runtime/server/watch/event/FileWatchRestartListener.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/InvocationInstrumenterFactory.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/InvocationInstrumenter.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/CompositeMessageSource.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/DefaultExecutorSelector.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/ExecutorFactory.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/io/watch/event/WatchEventType.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/annotation/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/TaskExecutors.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/cron/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/ExecutorConfiguration.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/NoopInstrumentation.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/InstrumentedExecutorService.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/refresh/RefreshEvent.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/refresh/RefreshInterceptor.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/InstrumentedScheduledExecutorService.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/server/event/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/async/AsyncInterceptor.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/exceptions/SchedulerConfigurationException.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/Micronaut.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/processor/ScheduledMethodProcessor.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/ExecutorSelector.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/InstrumentedExecutor.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/DefaultThreadFactory.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/MultipleInvocationInstrumenter.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/ScheduledExecutorServiceConfig.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/NextFireTime.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/annotation/Scheduled.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/server/event/ServerShutdownEvent.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/ScopedProxy.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/exceptions/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/io/watch/WatchServiceFactory.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/refresh/RefreshScope.java

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\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/io/watch/DefaultWatchThread.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/event/annotation/EventListener.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/event/ApplicationStartupEvent.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/Refreshable.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/ThreadLocal.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/env/ConfigurationAdvice.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/async/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/EmbeddedApplication.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/io/watch/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/event/annotation/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/processor/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/env/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/ReactiveInvocationInstrumenterFactory.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/event/ApplicationShutdownEvent.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/server/EmbeddedServer.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/IOExecutorServiceConfig.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/ThreadLocalCustomScope.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/NamedThreadFactory.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/TaskExceptionHandler.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/io/watch/event/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/exceptions/ApplicationStartupException.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/annotation/ExecuteOn.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/InvocationInstrumenterWrappedCallable.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/ScheduledExecutorTaskScheduler.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/package-info.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/converters/time/TimeConverterRegistrar.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/instrument/RunnableInstrumenter.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/scheduling/executor/ThreadSelection.java

\* /opt/cola/permits/1743477401\_1689201652.3172603/0/micronaut-context-3-9-4-sources-jar/io/micronaut/runtime/context/scope/refresh/package-info.java



```
* /opt/cola/permits/1743477401_1689201652.3172603/0/micronaut-context-3-9-4-sources-  
jar/io/micronaut/scheduling/DefaultTaskExceptionHandler.java  
* /opt/cola/permits/1743477401_1689201652.3172603/0/micronaut-context-3-9-4-sources-  
jar/io/micronaut/scheduling/ReschedulingTask.java
```

# 1.55 jackson-databind 2.15.0

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# 1.56 Iz4-java 1.8.0

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```
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jar/org/jctools/queues/spec/Ordering.java  
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jar/org/jctools/queues/MessagePassingQueueUtil.java  
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/atomic/MpMCAtomicArrayQueue.java  
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jar/org/jctools/queues/atomic/LinkedListQueueAtomicNode.java  
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jar/org/jctools/queues/SpSCLinkedListQueue.java  
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jar/org/jctools/queues/MpSCUnboundedXaddArrayQueue.java  
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
```

jar/org/jctools/queues/spec/Preference.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/atomic/MpscAtomicArrayQueue.java  
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jar/org/jctools/queues/SupportsIterator.java  
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jar/org/jctools/queues/MpmcUnboundedXaddArrayQueue.java  
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jar/org/jctools/queues/atomic/BaseSpscLinkedAtomicArrayQueue.java  
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jar/org/jctools/queues/atomic/AtomicQueueFactory.java  
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jar/org/jctools/queues/atomic/SpscAtomicArrayQueue.java  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/maps/AbstractEntry.java  
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jar/org/jctools/queues/MpmcUnboundedXaddChunk.java  
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jar/org/jctools/queues/MpscChunkedArrayQueue.java  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/atomic/MpscChunkedAtomicArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/util/UnsafeLongArrayAccess.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/MpscBlockingConsumerArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/atomic/BaseMpscLinkedAtomicArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/maps/NonBlockingHashMap.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/BaseMpscLinkedArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/atomic/MpscGrowableAtomicArrayQueue.java  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/BaseLinkedQueue.java  
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jar/org/jctools/util/InternalAPI.java  
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jar/org/jctools/queues/atomic/SpSCChunkedAtomicArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
jar/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java  
\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-  
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\* /opt/ws\_local/PERMITS\_SQL/1093815924\_1601014602.33/0/jctools-core-3-1-0-sources-

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jar/org/jctools/queues/MpscArrayQueue.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
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jar/org/jctools/queues/MpscUnboundedArrayQueue.java
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* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/IndexedQueueSizeUtil.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
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jar/org/jctools/queues/package-info.java
* /opt/ws_local/PERMITS_SQL/1093815924_1601014602.33/0/jctools-core-3-1-0-sources-
jar/org/jctools/queues/BaseSpSCLinkedArrayQueue.java

```

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```

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">
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  <additionalOption>-Xdoclint:none</additionalOption>
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<distributionManagement>
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    <id>bintray-jctools-jctools</id>
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    <url>https://api.bintray.com/maven/jctools/jctools/jctools-core/?publish=1</url>
  </repository>
</distributionManagement>

<url>https://github.com/JCTools</url>
<inceptionYear>2013</inceptionYear>

<licenses>
  <license>
    <name>Apache License, Version 2.0</name>
    <url>http://www.apache.org/licenses/LICENSE-2.0.txt</url>
    <distribution>repo</distribution>
  </license>
</licenses>

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

<developers>
  <developer>
    <url>https://github.com/nitsanw</url>
  </developer>
  <developer>
    <url>https://github.com/mjpt777</url>
  </developer>

```

```

</developer>
<developer>
  <url>https://github.com/RichardWarburton</url>
</developer>
<developer>
  <url>https://github.com/kay</url>
</developer>
<developer>
  <url>https://github.com/franz1981</url>
</developer>
</developers>

<prerequisites>
  <maven>3.5.0</maven>
</prerequisites>

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  <java.version>1.6</java.version>
  <java.test.version>1.8</java.test.version>

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

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

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Found in path(s):

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

```

## 1.58 common-utils 7.3.0

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

# 1.62 commons-fileupload 1.5

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# 1.63 ca-certificates-bundle 20230506-r0

## 1.63.1 Available under license :

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```
# * You may opt to use, copy, modify, merge, publish, distribute and/or sell  
# * furnished to do so, under the terms of the COPYING file.
```

Found in path(s):

```
* /opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-  
20230506/mk-ca-bundle.pl
```

No license file was found, but licenses were detected in source scan.

```
/* c_rehash.c - Create hash symlinks for certificates
```

```
* C implementation based on the original Perl and shell versions
```



```
*
* Copyright (c) 2013-2014 Timo Teräs <timo.teras@iki.fi>
* All rights reserved.
*
* This software is licensed under the MIT License.
* Full license available at: http://opensource.org/licenses/MIT
*/
```

Found in path(s):

```
*/opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c_rehash.c
```

No license file was found, but licenses were detected in source scan.

```
#
# This Source Code Form is subject to the terms of the Mozilla Public
# License, v. 2.0. If a copy of the MPL was not distributed with this
# file, You can obtain one at http://mozilla.org/MPL/2.0/.
```

```
#
# certdata.txt
#
# This file contains the object definitions for the certs and other
# information "built into" NSS.
#
# Object definitions:
#
# Certificates
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_CERTIFICATE
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE       CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
# CKA_SUBJECT          DER+base64      (varies)
# CKA_ID               byte array      (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER    DER+base64      (varies)
# CKA_VALUE            DER+base64      (varies)
# CKA_NSS_EMAIL        ASCII7         (unused here)
# CKA_NSS_SERVER_DISTRUST_AFTER DER+base64      (varies)
# CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64      (varies)
#
# Trust
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_TRUST
```

```

# CKA_TOKEN          CK_BBOOL      CK_TRUE
# CKA_PRIVATE        CK_BBOOL      CK_FALSE
# CKA_MODIFIABLE     CK_BBOOL      CK_FALSE
# CKA_LABEL          UTF8          (varies)
# CKA_ISSUER         DER+base64    (varies)
# CKA_SERIAL_NUMBER  DER+base64    (varies)
# CKA_CERT_HASH      binary+base64 (varies)
# CKA_EXPIRES        CK_DATE       (not used here)
# CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST      (varies)
# CKA_TRUST_NON_REPUDIATION CK_TRUST      (varies)
# CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_AGREEMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_CERT_SIGN CK_TRUST      (varies)
# CKA_TRUST_CRL_SIGN CK_TRUST      (varies)
# CKA_TRUST_SERVER_AUTH CK_TRUST      (varies)
# CKA_TRUST_CLIENT_AUTH CK_TRUST      (varies)
# CKA_TRUST_CODE_SIGNING CK_TRUST      (varies)
# CKA_TRUST_EMAIL_PROTECTION CK_TRUST      (varies)
# CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST      (varies)
# CKA_TRUST_IPSEC_TUNNEL CK_TRUST      (varies)
# CKA_TRUST_IPSEC_USER CK_TRUST      (varies)
# CKA_TRUST_TIME_STAMPING CK_TRUST      (varies)
# CKA_TRUST_STEP_UP_APPROVED CK_BBOOL      (varies)
# (other trust attributes can be defined)
#

```

```

#
# The object to tell NSS that this is a root list and we don't
# have to go looking for others.
#

```

```

BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

```

```

#
# Certificate "GlobalSign Root CA"
#
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Tue Sep 01 12:00:00 1998
# Not Valid After : Fri Jan 28 12:00:00 2028
# Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99

```

# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034
```

\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052  
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106  
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064  
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320  
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054  
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263  
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362  
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240  
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004  
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015  
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374  
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217  
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247  
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156  
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235  
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341  
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364  
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004  
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146  
\125\342\374\110\311\051\046\151\340

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA"  
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE  
# Serial Number:04:00:00:00:01:15:4b:5a:c3:94  
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE  
# Not Valid Before: Tue Sep 01 12:00:00 1998  
# Not Valid After : Fri Jan 28 12:00:00 2028  
# Fingerprint (SHA-256):

```

EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
\244\035\202\234
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110  
\316\261\244

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204  
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171

\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123  
\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060  
\061\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066  
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060  
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156  
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170  
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046  
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033  
\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016  
\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155  
\224\310\030\071\355\376\102\030\126\337\344\114\111\020\170\116  
\001\166\065\143\022\066\335\146\274\001\004\066\243\125\150\325  
\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312  
\255\006\035\225\342\370\235\361\340\140\377\302\177\165\053\114  
\314\332\376\207\231\041\352\272\376\076\124\327\322\131\170\333  
\074\156\317\240\023\000\032\270\047\241\344\276\147\226\312\240  
\305\263\234\335\311\165\236\353\060\232\137\243\315\331\256\170  
\031\077\043\351\134\333\051\275\255\125\310\033\124\214\143\366  
\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264  
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301  
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153  
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\253\146  
\215\327\263\272\307\232\266\346\125\320\005\361\237\061\215\132  
\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052  
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262  
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370  
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201  
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151  
\023\225\145\037\304\223\074\375\171\217\004\324\076\117\352\367  
\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066  
\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361

\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354  
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216  
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042  
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170  
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043  
\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243  
\113\336\006\226\161\054\362\333\266\037\244\357\077\356

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For  
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For  
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65

# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321  
\351\216\106\245

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023



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\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"

#

# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Not Valid Before: Fri Oct 01 00:00:00 1999

# Not Valid After : Wed Jul 16 23:59:59 2036

# Fingerprint (SHA-256):

92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB

# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
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\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
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\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120  
\133\172

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\031\060\202\003\001\002\020\141\160\313\111\214\137  
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\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162  
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\147\156\040\103\154\141\163\163\040\062\040\120\165\142\154\151  
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
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\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012\023  
\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056\061  
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\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061  
\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060\103  
\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156\040

\103\154\141\163\163\040\062\040\120\165\142\154\151\143\040\120  
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\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
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\255\054\107\360\216\201\006\247\015\060\014\353\367\074\017\040  
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\120\034\126\256\314\215\167\115\307\040\115\247\061\166\357\150  
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\305\371\021\140\250\137\004\175\362\032\366\045\102\141\017\304  
\112\270\076\211\002\003\001\000\001\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\001\001\000\064\046\025  
\074\300\215\115\103\111\035\275\351\041\222\327\146\234\267\336  
\305\270\320\344\135\137\166\042\300\046\371\204\072\072\371\214  
\265\373\354\140\361\350\316\004\260\310\335\247\003\217\060\363  
\230\337\244\346\244\061\337\323\034\013\106\334\162\040\077\256  
\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337  
\060\302\124\260\250\073\125\241\376\026\050\315\102\275\164\156  
\200\333\047\104\247\316\104\135\324\033\220\230\015\036\102\224  
\261\000\054\004\320\164\243\002\005\042\143\143\315\203\265\373  
\301\155\142\153\151\165\375\135\160\101\271\365\277\174\337\276  
\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110  
\260\177\373\066\045\332\225\320\361\044\024\027\335\030\200\153  
\106\043\071\124\365\216\142\011\004\035\224\220\246\233\346\045  
\342\102\105\252\270\220\255\276\010\217\251\013\102\030\224\317  
\162\071\341\261\103\340\050\317\267\347\132\154\023\153\111\263  
\377\343\030\174\211\213\063\135\254\063\327\247\371\332\072\125  
\311\130\020\371\252\357\132\266\317\113\113\337\052

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
# For Email Distrust After: Wed Aug 31 00:00:00 2022  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL  
\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"

```
# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257
\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust.net Premium 2048 Secure Server CA"
```

```
#
# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Serial Number: 946069240 (0x3863def8)
# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Not Valid Before: Fri Dec 24 17:50:51 1999
# Not Valid After : Tue Jul 24 14:15:12 2029
# Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
# Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\070\143\336\370
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070  
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013  
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006  
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151  
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050  
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060  
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071  
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155  
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105  
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061  
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067  
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022  
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123  
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151  
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056  
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223  
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167  
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035

```
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053
\174\136\232\166\351\131\220\305\174\203\065\021\145\121
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"

# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net  
# Serial Number: 946069240 (0x3863def8)

# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Not Valid Before: Fri Dec 24 17:50:51 1999

# Not Valid After : Tue Jul 24 14:15:12 2029

# Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

# Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156  
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125  
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056  
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143  
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151  
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006  
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105  
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164  
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164  
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\070\143\336\370

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Baltimore CyberTrust Root"

#

# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Serial Number: 33554617 (0x20000b9)

# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Not Valid Before: Fri May 12 18:46:00 2000

# Not Valid After : Mon May 12 23:59:00 2025

# Fingerprint (SHA-256):

16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB

# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061  
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155  
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171  
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004  
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142  
\145\162\124\162\165\163\164\040\122\157\157\164

END



CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061  
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155  
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171  
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004  
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142  
\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\002\000\000\271

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002  
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111  
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164  
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012  
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003  
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103  
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036  
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027  
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060  
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162  
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145  
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023  
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162  
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253  
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200  
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005  
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353  
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271  
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055  
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212  
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033  
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172  
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256  
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230  
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353  
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162  
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077  
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072  
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236  
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001  
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345

```
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374
\347\201\035\031\303\044\102\352\143\071\251
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Baltimore CyberTrust Root"

# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Serial Number: 33554617 (0x20000b9)

# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Not Valid Before: Fri May 12 18:46:00 2000

# Not Valid After : Mon May 12 23:59:00 2025

# Fingerprint (SHA-256):

16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB

# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\002\000\000\271
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority"

#

# Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

# Serial Number: 1164660820 (0x456b5054)

# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

# Not Valid Before: Mon Nov 27 20:23:42 2006

# Not Valid After : Fri Nov 27 20:53:42 2026

# Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004  
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\105\153\120\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105  
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003  
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164  
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157  
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145  
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026  
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023  
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062  
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060  
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015  
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060  
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162  
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151  
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162  
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004  
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162  
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125  
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306

\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150  
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056  
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213  
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370  
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142  
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333  
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375  
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134  
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150  
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210  
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350  
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177  
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342  
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056  
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330  
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201  
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042  
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062  
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064  
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150  
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373  
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220  
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204  
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004  
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004  
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143  
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320  
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155  
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221  
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264  
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232  
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311  
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342  
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317  
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332  
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354  
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377  
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231  
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140  
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146  
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376  
\036\177\132\264\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority"

# Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

# Serial Number: 1164660820 (0x456b5054)

# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

# Not Valid Before: Mon Nov 27 20:23:42 2006

# Not Valid After : Fri Nov 27 20:53:42 2026

# Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324

\147\111\122\371

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165

\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004

\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156

\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160

\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145

\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143

\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040

\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105

\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164

\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162

\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\105\153\120\124

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

```
# Certificate "Certum Root CA"
#
# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
# Serial Number: 65568 (0x10020)
# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
# Not Valid Before: Tue Jun 11 10:46:39 2002
# Not Valid After : Fri Jun 11 10:46:39 2027
# Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
```

\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261  
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215  
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250  
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234  
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304  
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210  
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153  
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117  
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156  
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123  
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225  
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040  
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042  
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110  
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073  
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076  
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201  
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032  
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246  
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343  
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340  
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230  
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251  
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152  
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171  
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323  
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161  
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122  
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151  
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054  
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163  
END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Root CA"

# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Serial Number: 65568 (0x10020)

# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Not Valid Before: Tue Jun 11 10:46:39 2002

# Not Valid After : Fri Jun 11 10:46:39 2027

# Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18



```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
\121\261\201\030
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
END
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Comodo AAA Services root"
#
# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Serial Number: 1 (0x1)
# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Not Valid Before: Thu Jan 01 00:00:00 2004
# Not Valid After : Sun Dec 31 23:59:59 2028
# Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032

```

\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204

\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121  
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162  
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062  
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155  
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151  
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372  
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274  
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120  
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277  
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112  
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363  
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302  
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067  
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366  
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003  
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217  
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042  
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242  
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362  
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267  
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237  
\225\351\066\226\230\156

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Comodo AAA Services root"

# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number: 1 (0x1)

```

# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Not Valid Before: Thu Jan 01 00:00:00 2004
# Not Valid After : Sun Dec 31 23:59:59 2028
# Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
END
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2"
#
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Serial Number: 1289 (0x509)
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 18:27:00 2006
# Not Valid After : Mon Nov 24 18:23:33 2031
# Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202
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\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256
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\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140
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\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302
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\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161  
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\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134  
\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210  
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\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125  
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366  
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147  
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320  
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\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023  
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237  
\006\133\250\256\161\135\057\005\057\147\346\023\105\203\304\066  
\366\363\300\046\014\015\265\107\144\135\370\264\162\311\106\245  
\003\030\047\125\211\170\175\166\352\226\064\200\027\040\334\347  
\203\370\215\374\007\270\332\137\115\056\147\262\204\375\331\104  
\374\167\120\201\346\174\264\311\015\013\162\123\370\166\007\007  
\101\107\226\014\373\340\202\046\223\125\214\376\042\037\140\145  
\174\137\347\046\263\367\062\220\230\120\324\067\161\125\366\222  
\041\170\367\225\171\372\370\055\046\207\146\126\060\167\246\067  
\170\063\122\020\130\256\077\141\216\362\152\261\357\030\176\112  
\131\143\312\215\242\126\325\247\057\274\126\037\317\071\301\342  
\373\012\250\025\054\175\115\172\143\306\154\227\104\074\322\157  
\303\112\027\012\370\220\322\127\242\031\121\245\055\227\101\332

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\007\117\251\120\332\220\215\224\106\341\076\360\224\375\020\000
\070\365\073\350\100\341\264\156\126\032\040\314\157\130\215\355
\056\105\217\326\351\223\077\347\261\054\337\072\326\042\214\334
\204\273\042\157\320\370\344\306\071\351\004\210\074\303\272\353
\125\172\155\200\231\044\365\154\001\373\370\227\260\224\133\353
\375\322\157\361\167\150\015\065\144\043\254\270\125\241\003\321
\115\102\031\334\370\165\131\126\243\371\250\111\171\370\257\016
\271\021\240\174\267\152\355\064\320\266\046\142\070\032\207\014
\370\350\375\056\323\220\177\007\221\052\035\326\176\134\205\203
\231\260\070\010\077\351\136\371\065\007\344\311\142\156\127\177
\247\120\225\367\272\310\233\346\216\242\001\305\326\146\277\171
\141\363\074\034\341\271\202\134\135\240\303\351\330\110\275\031
\242\021\024\031\156\262\206\033\150\076\110\067\032\210\267\135
\226\136\234\307\357\047\142\010\342\221\031\134\322\361\041\335
\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
\341\243\223\035\314\212\046\132\011\070\320\316\327\015\200\026
\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271
\274\124\042\300\001\120\151\103\236\364\262\357\155\370\354\332
\361\343\261\357\337\221\217\124\052\013\045\301\046\031\304\122
\020\005\145\325\202\020\352\302\061\315\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 2"
```

```
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
```

```
# Serial Number: 1289 (0x509)
```

```
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Fri Nov 24 18:27:00 2006
```

```
# Not Valid After : Mon Nov 24 18:23:33 2031
```

```
# Fingerprint (SHA-256):
```

```
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
```

```
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
```

```

\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3"
#
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Serial Number: 1478 (0x5c6)
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 19:11:23 2006
# Not Valid After : Mon Nov 24 19:06:44 2031
# Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END

```



CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005  
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062  
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064  
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314  
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103  
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270  
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001  
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253  
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147  
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053  
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067  
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311  
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335  
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014  
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036  
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057  
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313  
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173  
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323  
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245  
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314  
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136  
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125  
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236  
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210  
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305  
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355  
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111  
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246  
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331  
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322  
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155  
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100  
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327  
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002

\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341  
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011  
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006  
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101  
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103  
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164  
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143  
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151  
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164  
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120  
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156  
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041  
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141  
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160  
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035  
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\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103  
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111  
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031  
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\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064  
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363  
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240  
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246  
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167  
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255  
\210\213\035\253\026\215\133\146\027\331\026\364\213\200\322\335  
\370\262\166\303\374\070\023\252\014\336\102\151\053\156\363\074  
\353\200\047\333\365\246\104\015\237\132\125\131\013\325\015\122  
\110\305\256\237\362\057\200\305\352\062\120\065\022\227\056\301  
\341\377\361\043\210\121\070\237\362\146\126\166\347\017\121\227  
\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206  
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115  
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\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172  
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261  
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350  
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012  
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173  
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115  
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230

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\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223
\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312
\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 3"
```

```
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
```

```
# Serial Number: 1478 (0x5c6)
```

```
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Fri Nov 24 19:11:23 2006
```

```
# Not Valid After : Mon Nov 24 19:06:44 2031
```

```
# Fingerprint (SHA-256):
```

```
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
```

```
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
```

```
\202\165\121\205
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
```

```
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
```

```
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
```

```
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
```

```
\157\164\040\103\101\040\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\002\005\306
```

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication Root CA"
#
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004

```

\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155  
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101  
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064  
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071  
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120  
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115  
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003  
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164  
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245  
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174  
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072  
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235  
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011  
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113  
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024  
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375  
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344  
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131  
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315  
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333  
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144  
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311  
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115  
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326  
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006  
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133  
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100  
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306  
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131  
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245  
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353  
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101  
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102  
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371  
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131  
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016  
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124  
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101  
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260  
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055  
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003  
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026

```

\057\317\246\356\311\160\042\024\275\375\276\154\013\003
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Security Communication Root CA"
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Camerfirma Chambers of Commerce Root"
#
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

```

```
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
```

\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040  
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040  
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164  
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063  
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132  
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001  
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374  
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133  
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304  
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043  
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035  
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066  
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075  
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052  
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121  
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064  
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167  
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006  
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001  
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057  
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143  
\150\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142  
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162  
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056  
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115  
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060



\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164  
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163  
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155  
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321  
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226  
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135  
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272  
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216  
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042  
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236  
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354  
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034  
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331  
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312  
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064  
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110  
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335  
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356  
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370  
\334

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
# For Email Distrust After: Mon Mar 01 00:00:00 2021  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL  
\062\061\060\063\060\061\060\060\060\060\060\060\132  
END

# Trust for "Camerfirma Chambers of Commerce Root"  
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU  
# Serial Number: 0 (0x0)  
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU  
# Not Valid Before: Tue Sep 30 16:13:43 2003  
# Not Valid After : Wed Sep 30 16:13:44 2037  
# Fingerprint (SHA-256):  
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3  
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Camerfirma Chambers of Commerce Root"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061

```

\060\141\360\261
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "XRamp Global CA Root"
#
# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160

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\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170  
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155  
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217  
\240\255

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120  
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036  
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141  
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044  
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123  
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163  
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130  
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061  
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067  
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167  
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122  
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162  
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125  
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041

\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246  
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320  
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141  
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070  
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254  
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132  
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332  
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027  
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142  
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201  
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024  
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254  
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060  
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057  
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164  
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020  
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012  
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220  
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021  
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110  
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352  
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155  
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211  
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231  
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332  
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260  
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273  
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262  
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341  
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330  
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020  
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311  
\264\003\045\274

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "XRamp Global CA Root"
# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Class 2 CA"
#
# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Serial Number: 0 (0x0)

```

```
# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:06:20 2004
# Not Valid After : Thu Jun 29 17:06:20 2034
# Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160
```

\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023  
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015  
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030  
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342  
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142  
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030  
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244  
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171  
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377  
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304  
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202  
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241  
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125  
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171  
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057  
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007  
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012  
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162  
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327  
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105  
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317  
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345  
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156  
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020  
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370  
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274  
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021  
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002

```
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035
\177\333\275\237
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Go Daddy Class 2 CA"

# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:06:20 2004

# Not Valid After : Thu Jun 29 17:06:20 2034

# Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#



```

# Certificate "Starfield Class 2 CA"
#
# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:39:16 2004
# Not Valid After : Thu Jun 29 17:39:16 2034
# Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060

```

\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066  
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151  
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002  
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021  
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237  
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360  
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115  
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045  
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052  
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064  
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072  
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121  
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232  
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270  
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144  
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300  
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006  
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206  
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006  
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157  
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003  
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103  
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363  
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145

```
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057
\037\027\224
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Starfield Class 2 CA"
```

```
# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
```

```
# Not Valid Before: Tue Jun 29 17:39:16 2004
```

```
# Not Valid After : Thu Jun 29 17:39:16 2034
```

```
# Fingerprint (SHA-256):
```

```
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
```

```
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Starfield Class 2 CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Assured ID Root CA"

#

# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39

# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

# Fingerprint (SHA-256):

3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C

# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360  
\060\071

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014  
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145

\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076  
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170  
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227  
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337  
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137  
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263  
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046

```
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root CA"

# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39

# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

# Fingerprint (SHA-256):

3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C

# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Global Root CA"

#

# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

# Fingerprint (SHA-256):

43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61

# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221  
\307\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010  
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060

\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060  
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127  
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001  
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127  
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277  
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173  
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006  
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172  
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155  
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062  
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111  
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317  
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024  
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277  
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370  
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004  
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177  
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321  
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037  
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126  
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077  
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352



```
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225
\225\155\336
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Global Root CA"

# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Fri Nov 10 00:00:00 2006

# Not Valid After : Mon Nov 10 00:00:00 2031

# Fingerprint (SHA-256):

43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61

# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert High Assurance EV Root CA"
#
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002

```

\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145  
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143  
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015  
\060\066\061\061\061\060\060\060\060\060\060\060\132\027\015\063  
\061\061\061\061\060\060\060\060\060\060\060\132\060\154\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006  
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111  
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167  
\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060  
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164  
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040  
\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346  
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111  
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100  
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326  
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070  
\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370  
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014  
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162  
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232  
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101  
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127  
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163  
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067  
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002  
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144  
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040  
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001  
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357  
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200  
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002  
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234  
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277  
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372  
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263  
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232

```
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251
\370\351\056\023\243\167\350\037\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert High Assurance EV Root CA"
```

```
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
```

```
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Fri Nov 10 00:00:00 2006
```

```
# Not Valid After : Mon Nov 10 00:00:00 2031
```

```
# Fingerprint (SHA-256):
```

```
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
```

```
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
```

```
\141\307\334\045
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
```

```
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
```

```
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
```

```
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
```

```
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
```

```
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106  
\045\167

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SwissSign Gold CA - G2"

#

# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:30:35 2006

# Not Valid After : Sat Oct 25 08:30:35 2036

# Fingerprint (SHA-256):

62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95

# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Gold CA - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023  
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040  
\103\101\040\055\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023  
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040  
\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\273\100\034\103\365\136\117\260

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000  
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125  
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023

\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060  
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147  
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036  
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027  
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060  
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147  
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123  
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101  
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251  
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052  
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374  
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130  
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176  
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333  
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330  
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234  
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275  
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340  
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204  
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120  
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250  
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135  
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305  
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053  
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155  
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313  
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014  
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262  
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227  
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274  
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162  
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142  
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203  
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342  
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256  
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266  
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114  
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124  
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031  
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201  
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173  
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360

\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045  
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347  
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006  
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010  
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057  
\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163  
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272  
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203  
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374  
\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316  
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144  
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270  
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271  
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000  
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042  
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202  
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236  
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267  
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257  
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164  
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113  
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332  
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044  
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125  
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202  
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352  
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126  
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167  
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053  
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165  
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151  
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042  
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300  
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260  
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111  
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272  
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155  
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362  
\111\044\133\311\260\320\127\301\372\076\172\341\227\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Gold CA - G2"  
# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH  
# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

```
# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:30:35 2006
# Not Valid After : Sat Oct 25 08:30:35 2036
# Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "SwissSign Silver CA - G2"
#
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:32:46 2006
# Not Valid After : Sat Oct 25 08:32:46 2036
# Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```



```
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007
```

\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144  
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346  
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155  
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013  
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276  
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177  
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204  
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311  
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011  
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020  
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074  
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107  
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173  
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361  
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337  
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330  
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013  
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372  
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105  
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103  
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201  
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302  
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200  
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034  
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075  
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060  
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164  
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163  
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177  
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135  
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151  
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037  
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205  
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075  
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143  
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135  
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220  
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072  
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156  
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231  
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365  
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133  
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274

```
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SwissSign Silver CA - G2"
```

```
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
```

```
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
```

```
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
```

```
# Not Valid Before: Wed Oct 25 08:32:46 2006
```

```
# Not Valid After : Sat Oct 25 08:32:46 2036
```

```
# Fingerprint (SHA-256):
```

```
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
```

```
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
```

\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145

\162\040\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\117\033\324\057\124\273\057\113

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SecureTrust CA"

#

# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:31:18 2006

# Not Valid After : Mon Dec 31 19:40:55 2029

# Fingerprint (SHA-256):

F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73

# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SecureTrust CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145

\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157

\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165

\162\145\124\162\165\163\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145

\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157

\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165

\162\145\124\162\165\163\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030

\131\320

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014  
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060  
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162  
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145  
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061  
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063  
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012  
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157  
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125  
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040  
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312  
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063  
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340  
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110  
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216  
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365  
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117  
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250  
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030  
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144  
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243  
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162  
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044  
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122  
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064  
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131  
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023  
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000  
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026  
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257  
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240  
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145  
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124  
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112  
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167  
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120  
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043  
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177

```
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050
\113\035\236\054\302\270\150\274\355\002\356\061
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SecureTrust CA"
```

```
# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
```

```
# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
```

```
# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
```

```
# Not Valid Before: Tue Nov 07 19:31:18 2006
```

```
# Not Valid After : Mon Dec 31 19:40:55 2029
```

```
# Fingerprint (SHA-256):
```

```
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
```

```
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SecureTrust CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Secure Global CA"
#
# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162

```

\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145  
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066  
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061  
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125  
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040  
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006  
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157  
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006  
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211  
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105  
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017  
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032  
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120  
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144  
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011  
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360  
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015  
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310  
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014  
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302  
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373  
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167  
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120  
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060  
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004  
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172  
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060  
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162  
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157  
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006  
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013  
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262  
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263  
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316  
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014  
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072  
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046  
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051  
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264



```
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Secure Global CA"
```

```
# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
```

```
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
```

```
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
```

```
# Not Valid Before: Tue Nov 07 19:42:28 2006
```

```
# Not Valid After : Mon Dec 31 19:52:06 2029
```

```
# Fingerprint (SHA-256):
```

```
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
```

```
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Secure Global CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "COMODO Certification Authority"
#
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Fri Dec 01 00:00:00 2006
# Not Valid After : Mon Dec 31 23:59:59 2029
# Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116  
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125  
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002  
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145  
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061  
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162  
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117  
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060  
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367  
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373  
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333  
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310  
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104  
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241  
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174  
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077  
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146  
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351  
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075  
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341  
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376  
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120  
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216  
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116  
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060  
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345  
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115  
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156

\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030  
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174  
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002  
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057  
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063  
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126  
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077  
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337  
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310  
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070  
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127  
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365  
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135  
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005  
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041  
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001  
\145

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO Certification Authority"

# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d

# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Not Valid Before: Fri Dec 01 00:00:00 2006

# Not Valid After : Mon Dec 31 23:59:59 2029

# Fingerprint (SHA-256):

0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66

# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321  
\367\275\357\173

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "COMODO ECC Certification Authority"

#

# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a

# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Mar 06 00:00:00 2008

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7

# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143  
\231\052

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037  
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114  
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023  
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060  
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071  
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023  
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162  
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162  
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157  
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115  
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053  
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221  
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341  
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344  
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011  
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011  
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262  
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026

```
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346
\334\335\363\377\035\054\072\026\127\331\222\071\326
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "COMODO ECC Certification Authority"
```

```
# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Serial Number: 1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
```

```
# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Not Valid Before: Thu Mar 06 00:00:00 2008
```

```
# Not Valid After : Mon Jan 18 23:59:59 2038
```

```
# Fingerprint (SHA-256):
```

```
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
```

```
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
```

\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143

\231\052

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "OISTE WISeKey Global Root GA CA"

#

# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c) 2005,O=WISeKey,C=CH

# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a

# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c) 2005,O=WISeKey,C=CH

# Not Valid Before: Sun Dec 11 16:03:44 2005

# Not Valid After : Fri Dec 11 16:09:51 2037

# Fingerprint (SHA-256):

41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5

# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GA CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110

\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113

\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160

\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061

\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040

\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162

\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111

\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142

\141\154\040\122\157\157\164\040\107\101\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110

\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113

\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160

\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061

\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040



\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124  
\337\232

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101  
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020  
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171  
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162  
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060  
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157  
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145  
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124  
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154  
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060  
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067  
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013  
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006  
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060  
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150  
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003  
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144  
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050  
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127  
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157  
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066  
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172

\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121  
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066  
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060  
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001  
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261  
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253  
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311  
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066  
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304  
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234  
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174  
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231  
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036  
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332  
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030  
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000  
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142  
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243  
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051  
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311  
\374\276\337\012\015

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GA CA"

# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)  
2005,O=WISeKey,C=CH

# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a

# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)  
2005,O=WISeKey,C=CH

# Not Valid Before: Sun Dec 11 16:03:44 2005

# Not Valid After : Fri Dec 11 16:09:51 2037

# Fingerprint (SHA-256):

41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5

# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GA CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260  
\104\033\017\251

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110  
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113  
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160  
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124  
\337\232

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna"

#

# Issuer: CN=Certigna,O=Dhimyotis,C=FR

# Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

# Subject: CN=Certigna,O=Dhimyotis,C=FR

# Not Valid Before: Fri Jun 29 15:13:05 2007

# Not Valid After : Tue Jun 29 15:13:05 2027

# Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

# Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157  
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145  
\162\164\151\147\156\141

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157  
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145  
\162\164\151\147\156\141

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\376\334\343\001\017\311\110\377

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000  
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125  
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014  
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003  
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027  
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015  
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061  
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020  
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163  
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151  
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036  
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170  
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155  
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016  
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362  
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036  
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175  
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360  
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334  
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364  
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220  
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016  
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157  
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366  
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134  
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372  
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071  
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060  
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101  
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021  
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023

```
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Certigna"

# Issuer: CN=Certigna,O=Dhimyotis,C=FR

# Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

# Subject: CN=Certigna,O=Dhimyotis,C=FR

# Not Valid Before: Fri Jun 29 15:13:05 2007

# Not Valid After : Tue Jun 29 15:13:05 2027

# Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

# Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certigna"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
\254\375\224\227
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ePKI Root Certification Authority"
#
# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Mon Dec 20 02:31:27 2004
# Not Valid After : Wed Dec 20 02:31:27 2034
# Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322  
\274\235

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025  
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036  
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027  
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341  
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155  
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007  
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217  
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376  
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041  
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225  
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364  
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367  
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020  
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065  
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047  
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330  
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111  
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221  
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162  
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300  
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243  
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024  
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224  
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076  
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101  
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322

\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172  
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052  
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107  
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203  
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215  
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251  
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132  
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215  
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002  
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004  
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125  
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060  
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005  
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307  
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201  
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000  
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312  
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066  
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017  
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122  
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227  
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277  
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322  
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323  
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066  
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245  
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355  
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272  
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224  
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115  
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001  
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217  
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341  
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122  
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200  
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211  
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263  
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342  
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374  
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304  
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156  
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143  
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203



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\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352
\201\370\021\234
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "ePKI Root Certification Authority"
# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Mon Dec 20 02:31:27 2004
# Not Valid After : Wed Dec 20 02:31:27 2034
# Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
\075\151\306\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN ROOT CA"
#

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# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Serial Number:20:06:05:16:70:02
# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Not Valid Before: Tue Jul 04 17:20:04 2006
# Not Valid After : Fri Jul 04 17:20:04 2031
# Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135
```

\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020  
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272  
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263  
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135  
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001  
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200  
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020  
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320  
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045  
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057  
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211  
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327  
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044  
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030  
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124  
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223  
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031  
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133  
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367  
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210  
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240  
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240  
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160  
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302  
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210  
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115  
\366\356\260\132\116\111\104\124\130\137\102\203

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN ROOT CA"

# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Serial Number:20:06:05:16:70:02

# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Not Valid Before: Tue Jul 04 17:20:04 2006

# Not Valid After : Fri Jul 04 17:20:04 2031

# Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

```

# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
# Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2c:e4:00:10
# Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125

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\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303  
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303  
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\006\111\101\054\344\000\020

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111  
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006  
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102  
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012  
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067  
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303  
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003  
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040  
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221  
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036  
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027  
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201  
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163  
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114  
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004

\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156  
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163  
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114  
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163  
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163  
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245  
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071  
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141  
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174  
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070  
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202  
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220  
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106  
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302  
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316  
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173  
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205  
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204  
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366  
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266  
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221  
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233  
\330\316\304\143\165\077\131\107\261

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"
# Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2c:e4:00:10
# Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```
#
# Certificate "Hongkong Post Root CA 1"
#
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Serial Number: 1000 (0x3e8)
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Not Valid Before: Thu May 15 05:13:14 2003
# Not Valid After : Mon May 15 04:52:29 2023
# Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153
```



\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101  
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220  
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042  
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320  
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151  
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037  
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047  
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174  
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363  
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341  
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067  
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145  
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327  
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101  
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332  
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063  
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154  
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105  
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203  
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116  
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321  
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206  
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342  
\002\153\331\132

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 1"  
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK  
# Serial Number: 1000 (0x3e8)

```
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Not Valid Before: Thu May 15 05:13:14 2003
# Not Valid After : Mon May 15 04:52:29 2023
# Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureSign RootCA11"
#
# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Serial Number: 1 (0x1)
# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Not Valid Before: Wed Apr 08 04:56:47 2009
# Not Valid After : Sun Apr 08 04:56:47 2029
# Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203
```

\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362  
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175  
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330  
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213  
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342  
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305  
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053  
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002  
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324  
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355  
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241  
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146  
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257  
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073  
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120  
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255  
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102  
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253  
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335  
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310  
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371  
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154  
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055  
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215  
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003  
\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureSign RootCA11"

# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

# Serial Number: 1 (0x1)

# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

# Not Valid Before: Wed Apr 08 04:56:47 2009

# Not Valid After : Sun Apr 08 04:56:47 2029

# Fingerprint (SHA-256):

BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12

# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
\307\330\021\263
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsec e-Szigno Root CA 2009"
#
# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
# Serial Number:00:c2:7e:43:04:4e:47:3f:19
# Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Jun 16 11:30:18 2009
# Not Valid After : Sun Dec 30 11:30:18 2029
# Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
# Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145

```

\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040  
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015  
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147  
\156\157\056\150\165

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151  
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006  
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145  
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040  
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015  
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147  
\156\157\056\150\165

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000  
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003  
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007  
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003  
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164  
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143  
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122  
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006  
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157  
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015  
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062  
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061  
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017  
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061  
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163  
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003  
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151  
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071  
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317  
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175  
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165  
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134

\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330  
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034  
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024  
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116  
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002  
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373  
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032  
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247  
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302  
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044  
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203  
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265  
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075  
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003  
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314  
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006  
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145  
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321  
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223  
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041  
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312  
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124  
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244  
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242  
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131  
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371  
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036  
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207  
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334  
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141  
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070  
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155  
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311  
\202\042\055\172\124\253\160\303\175\042\145\202\160\226

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsec e-Szigno Root CA 2009"

# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:00:c2:7e:43:04:4e:47:3f:19

# Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Jun 16 11:30:18 2009

```
# Not Valid After : Sun Dec 30 11:30:18 2029
# Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
# Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R3"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Serial Number:04:00:00:00:00:01:21:58:53:08:a2
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Not Valid Before: Wed Mar 18 10:00:00 2009
# Not Valid After : Sun Mar 18 10:00:00 2029
# Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```



```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061\070
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254
```

\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365  
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335  
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351  
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377  
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031  
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233  
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161  
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250  
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124  
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312  
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212  
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051  
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123  
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203  
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212  
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000  
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025  
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027  
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125  
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213  
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054  
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057  
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162  
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107  
\130\077\137

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R3"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Serial Number:04:00:00:00:00:01:21:58:53:08:a2

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Not Valid Before: Wed Mar 18 10:00:00 2009

# Not Valid After : Sun Mar 18 10:00:00 2029

# Fingerprint (SHA-256):

CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B

# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133
\205\151\166\255
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:53:ec:3b:ee:fb:b2:48:5f
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Wed May 20 08:38:15 2009
# Not Valid After : Tue Dec 31 08:38:15 2030
# Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\123\354\073\356\373\262\110\137

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123  
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004  
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060  
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062  
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376

\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001  
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176  
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305  
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113  
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066  
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075  
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341  
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345  
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365  
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341  
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113  
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065  
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227  
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246  
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022  
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160  
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322  
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144  
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242  
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100

```
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
```

```
\267\367\266\372
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
```

```
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
```

```
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
```

```
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
```

```
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
```

```
\060\066\070
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Izenpe.com"
#
# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060

```

\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123  
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172  
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062  
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061  
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003  
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012  
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060  
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143  
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152  
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171  
\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244  
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216  
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231  
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014  
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207  
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267  
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301  
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127  
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074  
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174  
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003  
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341  
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340  
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376  
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204  
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046  
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020  
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265  
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251  
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215  
\006\063\132\242\205\345\220\065\240\142\134\026\116\360\343\242  
\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353  
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013  
\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360  
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044  
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001  
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114  
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215  
\277\332\177\242\017\227\117\014\323\015\373\327\321\345\162\176  
\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354  
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201  
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156  
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221  
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132  
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040  
\101\060\061\063\063\067\062\066\060\055\122\115\145\162\143\056



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\016\250\362\045\173\264\221\317\344\261\261\346\275\125\164\154  
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\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223  
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\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076  
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006  
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041  
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

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# Trust for "Izenpe.com"
# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Chambers of Commerce Root - 2008"
#
# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Serial Number:00:a3:da:42:7e:a4:b1:ae:da
# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Not Valid Before: Fri Aug 01 12:29:50 2008
# Not Valid After : Sat Jul 31 12:29:50 2038
# Fingerprint (SHA-256):

```

06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0

# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Chambers of Commerce Root - 2008"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125  
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\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023  
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155  
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060  
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023  
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155  
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\243\332\102\176\244\261\256\332

END

CKA\_VALUE MULTILINE\_OCTAL

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\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165  
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164  
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056

\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020  
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067  
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\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
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\156\076\115\067\103\015\222\025\234\030\042\315\121\231\240\051  
\032\074\137\212\062\063\133\060\307\211\057\107\230\017\243\003  
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\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022
\012\212\171\260\075\003\177\151\113\364\064\040\175\263\064\352
\216\113\144\365\076\375\263\043\147\025\015\004\270\360\055\301
\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311
\376\230\047\102\306\253\306\236\260\320\133\070\245\233\120\336
\176\030\230\265\105\073\366\171\264\350\367\032\173\006\203\373
\320\213\332\273\307\275\030\253\010\157\074\200\153\100\077\031
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\132\334\265\010\025\255\166\045\012\015\173\056\207\342\014\246
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\167\110\320
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END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Chambers of Commerce Root - 2008"

# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid  
(see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:a3:da:42:7e:a4:b1:ae:da

# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid  
(see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Not Valid Before: Fri Aug 01 12:29:50 2008

# Not Valid After : Sat Jul 31 12:29:50 2038

# Fingerprint (SHA-256):

06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0

# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\170\152\164\254\166\253\024\177\234\152\060\120\272\236\250\176
\376\232\316\074
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\200\236\204\132\016\145\013\027\002\363\125\030\052\076\327
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
```

```
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\011\000\243\332\102\176\244\261\256\332
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Global Chambersign Root - 2008"

#

# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Not Valid Before: Fri Aug 01 12:31:40 2008

# Not Valid After : Sat Jul 31 12:31:40 2038

# Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Global Chambersign Root - 2008"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163  
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\311\315\323\351\325\175\043\316

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\111\060\202\005\061\240\003\002\001\002\002\011\000  
\311\315\323\351\325\175\043\316\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\201\254\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165  
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164  
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056  
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020  
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067  
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141  
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060  
\045\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103  
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040  
\055\040\062\060\060\070\060\036\027\015\060\070\060\070\060\061  
\061\062\063\061\064\060\132\027\015\063\070\060\067\063\061\061  
\062\063\061\064\060\132\060\201\254\061\013\060\011\006\003\125  
\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007\023  
\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165\162  
\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164\040  
\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056\143  
\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020\006  
\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061  
\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060\045  
\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103\150  
\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040\055  
\040\062\060\060\070\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\300\337\126\323\344\072\233\166\105\264



\023\333\377\301\266\031\213\067\101\030\225\122\107\353\027\235  
\051\210\216\065\154\006\062\056\107\142\363\111\004\277\175\104  
\066\261\161\314\275\132\011\163\325\331\205\104\377\221\127\045  
\337\136\066\216\160\321\134\161\103\035\331\332\357\134\322\373  
\033\275\072\265\313\255\243\314\104\247\015\256\041\025\077\271  
\172\133\222\165\330\244\022\070\211\031\212\267\200\322\342\062  
\157\126\234\221\326\210\020\013\263\164\144\222\164\140\363\366  
\317\030\117\140\262\043\320\307\073\316\141\113\231\217\302\014  
\320\100\262\230\334\015\250\116\243\271\012\256\140\240\255\105  
\122\143\272\146\275\150\340\371\276\032\250\201\273\036\101\170  
\165\323\301\376\000\125\260\207\124\350\047\220\065\035\114\063  
\255\227\374\227\056\230\204\277\054\311\243\277\321\230\021\024  
\355\143\370\312\230\210\130\027\231\355\105\003\227\176\074\206  
\036\210\214\276\362\221\204\217\145\064\330\000\114\175\267\061  
\027\132\051\172\012\030\044\060\243\067\265\172\251\001\175\046  
\326\371\016\216\131\361\375\033\063\265\051\073\027\073\101\266  
\041\335\324\300\075\245\237\237\037\103\120\311\273\274\154\172  
\227\230\356\315\214\037\373\234\121\256\213\160\275\047\237\161  
\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325  
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256  
\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035  
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336  
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035  
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351  
\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153  
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307  
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233  
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141  
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120  
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323  
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040  
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060  
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026  
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361  
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201  
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153  
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257  
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163

\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202  
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035  
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060  
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164  
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162  
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177  
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032  
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131  
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250  
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257  
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063  
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365  
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252  
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361  
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230  
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135  
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163  
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077  
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110  
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235  
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372  
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367  
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035  
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204  
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324  
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116  
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260  
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170  
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050  
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011  
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326  
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036  
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351  
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150  
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231  
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060  
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364  
\351\233\256\325\124\300\164\200\321\013\102\237\301

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Global Chambersign Root - 2008"

# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see  
current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

```

# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Not Valid Before: Fri Aug 01 12:31:40 2008
# Not Valid After : Sat Jul 31 12:31:40 2038
# Fingerprint (SHA-256):
13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA
# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Root Certificate Authority - G2"
#
# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,
Inc.",L=Scottsdale,ST=Arizona,C=US

```

```
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
```

\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060  
\060\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063  
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007  
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007  
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030  
\006\003\125\004\012\023\021\107\157\104\141\144\144\171\056\143  
\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010  
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203  
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366  
\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116  
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007  
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215  
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336  
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062  
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262  
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353  
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141  
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051  
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200  
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221  
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333  
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033  
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000  
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040  
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227  
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145  
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214  
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256  
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053  
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337  
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353  
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355  
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072  
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350  
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333  
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075  
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316  
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006

```
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210
\342\342\104\276\134\367\352\034\365
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Go Daddy Root Certificate Authority - G2"

# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "Starfield Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060  
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154  
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060  
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071  
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172  
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143  
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151  
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133  
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327  
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040  
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334  
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133  
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165  
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161  
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363  
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315  
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202  
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373  
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115  
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244  
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134  
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164  
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303  
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060  
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001  
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071



```
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Root Certificate Authority - G2"

# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5

# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Root Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
```

```

\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Services Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157  
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157  
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012  
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150  
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073  
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145  
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060  
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154  
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150  
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071  
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061  
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003  
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021  
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154  
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162  
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151  
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004  
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162  
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276  
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051  
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136  
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033  
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266  
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035  
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203

\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112  
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256  
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314  
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336  
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015  
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105  
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144  
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237  
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205  
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252  
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010  
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055  
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336  
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301  
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052  
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056  
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163  
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320  
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047  
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035  
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372  
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046  
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247  
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060  
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250  
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215  
\261\050\272

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Services Root Certificate Authority - G2"  
# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US  
# Serial Number: 0 (0x0)  
# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US  
# Not Valid Before: Tue Sep 01 00:00:00 2009  
# Not Valid After : Thu Dec 31 23:59:59 2037  
# Fingerprint (SHA-256):  
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5  
# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Commercial"
#
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Serial Number:77:77:06:27:26:a9:b1:7c
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:06:06 2010
# Not Valid After : Tue Dec 31 14:06:06 2030
# Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167  
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015  
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063  
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037  
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303  
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217  
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065  
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137  
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053  
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107  
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326  
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013  
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005  
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002  
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265  
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201

\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120  
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253  
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334  
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077  
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000  
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051  
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006  
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052  
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324  
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143  
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045  
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073  
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355  
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362  
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302  
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140  
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162  
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111  
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002  
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236  
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357  
END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Commercial"

# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Serial Number:77:77:06:27:26:a9:b1:7c

# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:06:06 2010

# Not Valid After : Tue Dec 31 14:06:06 2030

# Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Commercial"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054  
\307\262\170\267

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Networking"
#
# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
# Serial Number:7c:4f:04:39:1c:d4:99:2d
# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:08:24 2010
# Not Valid After : Tue Dec 31 14:08:24 2030
# Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167

```



\157\162\153\151\156\147

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\174\117\004\071\034\324\231\055

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174  
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015  
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063  
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151  
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240  
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217  
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362  
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063  
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241  
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232  
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253  
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324  
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113  
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374  
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275  
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051  
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024  
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012  
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106  
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026  
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242  
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264  
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316  
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116  
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321  
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356

```
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Networking"
```

```
# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
```

```
# Serial Number:7c:4f:04:39:1c:d4:99:2d
```

```
# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:08:24 2010
```

```
# Not Valid After : Tue Dec 31 14:08:24 2030
```

```
# Fingerprint (SHA-256):
```

```
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
```

```
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Networking"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\174\117\004\071\034\324\231\055
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Premium"
#
# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
# Serial Number:6d:8c:14:46:b1:a6:0a:ee
# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:10:36 2010
# Not Valid After : Mon Dec 31 14:10:36 2040
# Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062

```

\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004  
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034  
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124  
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337  
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232  
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347  
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020  
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221  
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013  
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331  
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047  
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055  
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322  
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373  
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273  
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271  
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167  
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265  
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173  
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050  
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076  
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206  
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043  
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003  
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222  
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270  
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225  
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322  
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000  
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013  
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032  
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173  
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270  
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327  
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273  
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021  
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116  
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166  
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104  
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101

\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040  
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254  
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365  
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101  
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142  
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262  
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320  
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070  
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010  
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234  
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000  
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175  
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320  
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106  
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057  
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005  
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103  
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112  
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107  
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110  
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344  
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274  
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303  
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027  
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216  
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317  
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052  
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236  
\051\340\266\270\011\150\031\034\030\103

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium"

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

# Fingerprint (SHA-256):

70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A

# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Premium ECC"
#
# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Serial Number:74:97:25:8a:c7:3f:7a:54
# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:20:24 2010
# Not Valid After : Mon Dec 31 14:20:24 2040
# Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\164\227\045\212\307\077\172\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164  
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075  
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146  
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004  
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120  
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060  
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061  
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125  
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061  
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155  
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103  
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003  
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234  
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350  
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275  
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117  
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170  
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065  
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060  
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154  
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306  
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161  
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210  
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131  
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002  
\214\171

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "AffirmTrust Premium ECC"
# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Serial Number:74:97:25:8a:c7:3f:7a:54
# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:20:24 2010
# Not Valid After : Mon Dec 31 14:20:24 2040
# Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA"
#
# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number: 279744 (0x444c0)
# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E

```



# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
```

\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060  
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001  
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307  
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227  
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074  
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314  
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253  
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060  
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124  
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256  
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121  
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314  
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227  
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333  
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061  
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151  
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251  
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305  
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246  
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162  
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271  
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067  
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313  
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201  
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055  
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274  
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061  
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076  
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230  
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132  
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130  
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110  
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232  
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106  
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "Certum Trusted Network CA"
# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number: 279744 (0x444c0)
# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Root Certification Authority"
#
# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 1 (0x1)
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

```

```
# Not Valid Before: Thu Aug 28 07:24:33 2008
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
```

\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112  
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325  
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104  
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157  
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021  
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307  
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242  
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122  
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227  
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370  
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124  
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363  
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135  
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375  
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061  
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033  
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362  
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074  
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276  
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202  
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345  
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314  
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154  
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254  
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101  
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203  
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036  
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106  
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347  
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066  
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332  
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031  
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316  
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TWCA Root Certification Authority"

```

# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 1 (0x1)
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Thu Aug 28 07:24:33 2008
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Explicitly Distrust DigiNotar Root CA"
#
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Fri Jul 27 17:19:37 2007
# Not Valid After : Mon Mar 31 18:19:22 2025
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
```

\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126  
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201  
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300  
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177  
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330  
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213  
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337  
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045  
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123  
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007  
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043  
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042  
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041  
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313  
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110  
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114  
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376  
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344  
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357  
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314  
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351  
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154  
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262  
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042  
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077  
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102  
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323  
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176  
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147  
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002  
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004  
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257  
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362  
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203  
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302  
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013



\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075  
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114  
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313  
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273  
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235  
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160  
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007  
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351  
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134  
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045  
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113  
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174  
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304  
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012  
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330  
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

# Trust for Certificate "Explicitly Distrust DigiNotar Root CA"

# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff

# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

# Not Valid Before: Fri Jul 27 17:19:37 2007

# Not Valid After : Mon Mar 31 18:19:22 2025

# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E

# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260  
\316\272\041\057

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157  
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151

```
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_NOT\_TRUSTED

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Security Communication RootCA2"

#

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Fri May 29 05:00:39 2009

# Not Valid After : Tue May 29 05:00:39 2029

# Fingerprint (SHA-256):

51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication RootCA2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045  
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124  
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056  
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036  
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151  
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036  
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027  
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135  
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060  
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162  
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054  
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123  
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143  
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025  
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145  
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360  
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253  
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021  
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265  
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114  
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336  
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251  
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020  
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353  
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031  
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216  
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074  
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375  
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260  
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003  
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054  
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254  
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131  
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105  
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237  
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051

```
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136
\201\050\174\247\175\047\353\000\256\215\067
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Security Communication RootCA2"
```

```
# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Not Valid Before: Fri May 29 05:00:39 2009
```

```
# Not Valid After : Tue May 29 05:00:39 2029
```

```
# Fingerprint (SHA-256):
```

```
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
```

```
# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication RootCA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Actalis Authentication Root CA"
#
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Serial Number:57:0a:11:97:42:c4:e3:cc
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Not Valid Before: Thu Sep 22 11:22:02 2011
# Not Valid After : Sun Sep 22 11:22:02 2030
# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367

```

\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004  
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005  
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032  
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060  
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003  
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164  
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164  
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062  
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062  
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002  
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154  
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164  
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065  
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003  
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156  
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157  
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221  
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240  
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327  
\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157  
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105  
\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375  
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051  
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322  
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077  
\200\047\063\133\016\267\212\014\135\007\067\010\313\154\322\172  
\107\042\104\065\305\314\314\056\216\335\052\355\267\175\146\015  
\137\141\121\042\125\033\343\106\343\343\075\320\065\142\232\333  
\257\024\310\133\241\314\211\033\341\060\046\374\240\233\037\201  
\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117  
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020  
\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223  
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343  
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205  
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020  
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132  
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136  
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132  
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041  
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005  
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164  
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224  
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347  
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060  
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136

\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073  
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237  
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363  
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355  
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013  
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144  
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061  
\310\201\076\152\325\335\073\032\062\356\220\075\021\322\056\364  
\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252  
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152  
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363  
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115  
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254  
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025  
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267  
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272  
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143  
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331  
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300  
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227  
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070  
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160  
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244  
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033  
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300  
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321  
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225  
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363  
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124  
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274  
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146  
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124  
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024  
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263  
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223  
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056  
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Actalis Authentication Root CA"

```

# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Serial Number:57:0a:11:97:42:c4:e3:cc
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Not Valid Before: Thu Sep 22 11:22:02 2011
# Not Valid After : Sun Sep 22 11:22:02 2030
# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 2 Root CA"
#
# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:38:03 2010
# Not Valid After : Fri Oct 26 08:38:03 2040
# Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

```



```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307
```

\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165  
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377  
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224  
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361  
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134  
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350  
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031  
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257  
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347  
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001  
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075  
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000  
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153  
\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004  
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033  
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342  
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135  
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362  
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122  
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150  
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306  
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015  
\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143  
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326  
\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363  
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041  
\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357  
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025  
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254  
\003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377  
\112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326  
\107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355  
\072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117  
\266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136  
\203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350  
\371\373\042\161\331\175\263\075\106\277\264\204\257\220\034\017  
\217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376  
\254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373  
\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265  
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312  
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266  
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022  
\313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021

```
\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277
\327\201\011\361\311\307\046\015\254\230\026\126\240
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Buypass Class 2 Root CA"

# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:38:03 2010

# Not Valid After : Fri Oct 26 08:38:03 2040

# Fingerprint (SHA-256):

9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48

# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 3 Root CA"
#
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:28:58 2010
# Not Valid After : Fri Oct 26 08:28:58 2040
# Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163

```

\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132  
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172  
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030  
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075  
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307  
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304  
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347  
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072  
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075  
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355  
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034  
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327  
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071  
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023  
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134  
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113  
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064  
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027  
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156  
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246  
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330  
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013  
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110  
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322  
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016  
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132  
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303  
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303  
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237  
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017  
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142  
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262  
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057  
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017

\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043  
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342  
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302  
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125  
\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137  
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200  
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322  
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245  
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101  
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066  
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033  
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163  
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032  
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172  
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221  
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157  
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325  
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206  
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256  
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326  
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071  
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004  
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377  
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314  
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065  
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222  
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065  
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303  
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170  
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346  
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152  
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351  
\061\356\006\274\163\277\023\142\012\237\307\271\227

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 3 Root CA"

# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:28:58 2010

# Not Valid After : Fri Oct 26 08:28:58 2040

# Fingerprint (SHA-256):

ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D

# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Bypass Class 3 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "T-TeleSec GlobalRoot Class 3"
#
# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Serial Number: 1 (0x1)
# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Not Valid Before: Wed Oct 01 10:29:56 2008
# Not Valid After : Sat Oct 01 23:59:59 2033
# Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105

```

\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060  
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042



\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315  
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366  
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053  
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077  
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104  
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373  
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270  
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042  
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206  
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271  
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221  
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223  
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114  
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067  
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137  
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265  
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277  
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262  
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115  
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035  
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131  
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262  
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312  
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364  
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223  
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076  
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323  
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157  
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011  
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245  
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032  
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202  
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051  
\116\223\303\244\124\024\133

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 3"

# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services

```

GmbH,C=DE
# Not Valid Before: Wed Oct 01 10:29:56 2008
# Not Valid After : Sat Oct 01 23:59:59 2033
# Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623603 (0x983f3)
# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:35:58 2009
# Not Valid After : Mon Nov 05 08:35:58 2029
# Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_ID UTF8 ""
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121
```

\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121  
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051  
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234  
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014  
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070  
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340  
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151  
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145  
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305  
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336  
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323  
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176  
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143  
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164  
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157  
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062  
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117  
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054  
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145  
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103  
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167  
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154  
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154  
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175  
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262  
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342  
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204  
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330  
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164  
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241  
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151  
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012  
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031  
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133  
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274  
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227  
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366  
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330  
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136  
\164\145\327\134\376\243\342

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623603 (0x983f3)

# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:35:58 2009

# Not Valid After : Mon Nov 05 08:35:58 2029

# Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377  
\215\137\000\360

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\011\203\363

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "D-TRUST Root Class 3 CA 2 EV 2009"

#

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623604 (0x983f4)

# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:50:46 2009

# Not Valid After : Mon Nov 05 08:50:46 2029

# Fingerprint (SHA-256):

EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81

# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326
```

\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064  
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342  
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262  
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231  
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355  
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034  
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121  
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072  
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160  
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374  
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225  
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355  
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060  
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323  
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232  
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201  
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160  
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164  
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122  
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141  
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045  
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055  
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104  
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166  
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240  
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055  
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055  
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163  
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357  
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051  
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316  
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111  
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071  
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262  
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110  
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105  
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042  
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104  
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332  
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046  
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063  
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227  
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327  
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041

\352\237\026\361\054\124\265

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 EV 2009"

# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Serial Number: 623604 (0x983f4)

# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

# Not Valid Before: Thu Nov 05 08:50:46 2009

# Not Valid After : Mon Nov 05 08:50:46 2029

# Fingerprint (SHA-256):

EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81

# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140

\372\271\026\203

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061

\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163

\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014

\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154

\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060

\060\071

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\011\203\364

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "CA Disig Root R2"

#

# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Serial Number:00:92:b8:88:db:b0:8a:c1:63



```
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060
```

\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236  
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346  
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101  
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107  
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002  
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243  
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310  
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003  
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322  
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336  
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307  
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304  
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321  
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053  
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052  
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316  
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212  
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005  
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166  
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207  
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015  
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211  
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161  
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261  
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003  
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\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232  
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154  
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321  
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\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365  
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
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\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035  
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012  
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136  
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001  
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114  
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047  
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250  
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\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274  
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033

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\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375
\363\154\033\165\106\243\345\112\027\351\244\327\013
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "CA Disig Root R2"

# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Serial Number:00:92:b8:88:db:b0:8a:c1:63

# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK

# Not Valid Before: Thu Jul 19 09:15:30 2012

# Not Valid After : Sat Jul 19 09:15:30 2042

# Fingerprint (SHA-256):

E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03

# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CA Disig Root R2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061

\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163

\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104

\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125

\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157

\164\040\122\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\222\270\210\333\260\212\301\143

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ACCVRAIZ1"

#

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

# Fingerprint (SHA-256):

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13

# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ACCVRAIZ1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103

\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014

\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004

\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006

\023\002\105\123

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103

\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014

\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004

\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006

\023\002\105\123

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\136\303\267\246\103\177\244\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136  
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004  
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016  
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015  
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060  
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061  
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061  
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020  
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061  
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103  
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103  
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233  
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226  
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336  
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030  
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134  
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333  
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250  
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076  
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114  
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100  
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151  
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241  
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153  
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055  
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263  
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377  
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370  
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240  
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207  
\223\247\306\212\212\063\227\140\067\020\076\227\076\156\051\025  
\326\241\017\321\210\054\022\237\157\252\244\306\102\353\101\242  
\343\225\103\323\001\205\155\216\273\073\363\043\066\307\376\073  
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\145\363\356\354\113\150\275\235\210\303\061\263\100\361\350\317  
\366\070\273\234\344\321\177\324\345\130\233\174\372\324\363\016  
\233\165\221\344\272\122\056\031\176\321\365\315\132\031\374\272  
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\352\171\146\166\210\117\161\353\004\045\326\012\132\172\223\345  
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\057\167\167\167\056\141\143\143\166\056\145\163\057\146\151\154  
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\035\016\004\026\004\024\322\207\264\343\337\067\047\223\125\366  
\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\322\207\264\343\337\067\047\223  
\125\366\126\352\201\345\066\314\214\036\077\275\060\202\001\163  
\006\003\125\035\040\004\202\001\152\060\202\001\146\060\202\001  
\142\006\004\125\035\040\000\060\202\001\130\060\202\001\042\006  
\010\053\006\001\005\005\007\002\002\060\202\001\024\036\202\001  
\020\000\101\000\165\000\164\000\157\000\162\000\151\000\144\000  
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\151\000\363\000\156\000\040\000\122\000\141\000\355\000\172\000  
\040\000\144\000\145\000\040\000\154\000\141\000\040\000\101\000  
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\163\057\154\145\147\151\163\154\141\143\151\157\156\137\143\056  
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\017\001\001\377\004\004\003\002\001\006\060\027\006\003\125\035  
\021\004\020\060\016\201\014\141\143\143\166\100\141\143\143\166  
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\104\024\344\051\207\355\114\050\146\320\217\065\332\115\141\267  
\112\227\115\265\333\220\340\005\056\016\306\171\320\362\227\151  
\017\275\004\107\331\276\333\265\051\332\233\331\256\251\231\325  
\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225  
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\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111  
\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201  
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246  
\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033  
\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275  
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103  
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047  
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057  
\261\046\133\047\165\000\011\304\142\167\051\010\137\236\131\254  
\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012  
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336  
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207  
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126  
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276  
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141  
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301  
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352  
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300  
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\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105  
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226  
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217  
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207  
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311  
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113  
\125\064\106\052\213\206\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ACCVRAIZ1"  
# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1  
# Serial Number:5e:c3:b7:a6:43:7f:a4:e0  
# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1  
# Not Valid Before: Thu May 05 09:37:37 2011  
# Not Valid After : Tue Dec 31 09:37:37 2030  
# Fingerprint (SHA-256):

```

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
\274\123\144\027
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Global Root CA"
#
# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 3262 (0xcbe)
# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Wed Jun 27 06:28:33 2012
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061

```



\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\014\276

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014  
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062  
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071  
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002  
\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111  
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023  
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004  
\003\023\023\124\127\103\101\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212  
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305  
\327\114\116\105\111\313\100\102\265\022\064\154\031\302\164\244  
\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270  
\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263  
\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062  
\071\065\122\072\050\203\370\173\026\306\030\270\142\326\107\045  
\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241  
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103  
\217\372\312\326\020\047\111\114\357\335\301\361\205\160\233\312  
\352\250\132\103\374\155\206\157\163\351\067\105\251\360\066\307  
\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161  
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367

\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334  
\343\242\250\221\152\037\302\221\105\210\134\345\230\270\161\245  
\025\031\311\174\165\021\314\160\164\117\055\233\035\221\104\375  
\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166  
\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202  
\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000  
\046\143\141\066\116\243\106\267\077\175\263\055\254\155\220\242  
\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051  
\176\246\070\276\216\051\112\041\146\171\037\263\303\265\011\147  
\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017  
\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157  
\336\011\224\001\203\327\064\033\314\100\245\360\270\233\147\325  
\230\221\073\247\204\170\225\046\244\132\010\370\053\164\264\000  
\004\074\337\270\024\216\350\337\251\215\154\147\222\063\035\300  
\267\322\354\222\310\276\011\277\054\051\005\157\002\153\236\357  
\274\277\052\274\133\300\120\217\101\160\161\207\262\115\267\004  
\251\204\243\062\257\256\356\153\027\213\262\261\376\154\341\220  
\214\210\250\227\110\316\310\115\313\363\006\317\137\152\012\102  
\261\036\036\167\057\216\240\346\222\016\006\374\005\042\322\046  
\341\061\121\175\062\334\017\002\003\001\000\001\243\043\060\041  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\002\001\000\137\064\201\166\357\226\035\325\345\265\331  
\002\143\204\026\301\256\240\160\121\247\367\114\107\065\310\013  
\327\050\075\211\161\331\252\063\101\352\024\033\154\041\000\300  
\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227  
\113\215\260\350\254\310\356\245\151\004\231\012\222\246\253\047  
\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063  
\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064  
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205  
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367  
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145  
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150  
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142  
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054  
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376  
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103  
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217  
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241  
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114  
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243  
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226  
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351  
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237  
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326  
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367  
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025

```
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262
\053\006\320\004\315
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TWCA Global Root CA"
```

```
# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
```

```
# Serial Number: 3262 (0xcbe)
```

```
# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
```

```
# Not Valid Before: Wed Jun 27 06:28:33 2012
```

```
# Not Valid After : Tue Dec 31 15:59:59 2030
```

```
# Fingerprint (SHA-256):
```

```
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
```

```
# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TWCA Global Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\002\014\276
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TeliaSonera Root CA v1"

#

# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96

# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera

# Not Valid Before: Thu Oct 18 12:00:50 2007

# Not Valid After : Mon Oct 18 12:00:50 2032

# Fingerprint (SHA-256):

DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89

# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TeliaSonera Root CA v1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154  
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004  
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122  
\157\157\164\040\103\101\040\166\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154  
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004  
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122  
\157\157\164\040\103\101\040\166\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372  
\213\315\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000  
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151  
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003  
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157  
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060  
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061  
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003  
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141  
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141

\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305  
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143  
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345  
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165  
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043  
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261  
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227  
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110  
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006  
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176  
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135  
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324  
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254  
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260  
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213  
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046  
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367  
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213  
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336  
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225  
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211  
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056  
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076  
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040  
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170  
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260  
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172  
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354  
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022  
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235  
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220  
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170  
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016  
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325  
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142  
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104  
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345  
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135  
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116  
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261  
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343  
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203

```
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211
\245\240\314\277\323\366\165\244\165\226\155\126
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TeliaSonera Root CA v1"
```

```
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
```

```
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Not Valid Before: Thu Oct 18 12:00:50 2007
```

```
# Not Valid After : Mon Oct 18 12:00:50 2032
```

```
# Fingerprint (SHA-256):
```

```
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
```

```
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
END
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "E-Tugra Certification Authority"
#
# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR
# Serial Number:6a:68:3e:9c:51:9b:cb:53
# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR
# Not Valid Before: Tue Mar 05 12:09:48 2013
# Not Valid After : Fri Mar 03 12:09:48 2023
# Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
```

\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\152\150\076\234\121\233\313\123

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152  
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125  
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014  
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012  
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102  
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152  
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154  
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125  
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164  
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172  
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165  
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063  
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013  
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006  
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076  
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040  
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153  
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151  
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046  
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141  
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115  
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014  
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151



\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030  
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113  
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113  
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107  
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015  
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053  
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205  
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104  
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144  
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050  
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273  
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263  
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303  
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331  
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215  
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007  
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263  
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102  
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255  
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171  
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336  
\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014  
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305  
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012  
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374  
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313  
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061  
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347  
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013  
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077  
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027  
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307  
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372  
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171  
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005  
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034  
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320  
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221  
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326  
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320

\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230  
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323  
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141  
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134  
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072  
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173  
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067  
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153  
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275  
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212  
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271  
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060  
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072  
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321  
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261  
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345  
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037  
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276  
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217  
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227  
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013  
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103  
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373  
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147  
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035  
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073  
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Certification Authority"

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Serial Number:6a:68:3e:9c:51:9b:cb:53

# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Not Valid Before: Tue Mar 05 12:09:48 2013

# Not Valid After : Fri Mar 03 12:09:48 2023

# Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142  
\217\303\122\071  
END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111  
END

CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\010\152\150\076\234\121\233\313\123  
END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#  
# Certificate "T-TeleSec GlobalRoot Class 2"  
#  
# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services  
GmbH,C=DE  
# Serial Number: 1 (0x1)  
# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services  
GmbH,C=DE  
# Not Valid Before: Wed Oct 01 10:40:14 2008  
# Not Valid After : Sat Oct 01 23:59:59 2033  
# Fingerprint (SHA-256):  
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52  
# Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060  
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006

\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350  
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035  
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110  
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145  
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202  
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366  
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115  
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142  
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302  
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336  
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352  
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104  
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040  
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331  
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306  
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237  
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277  
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054  
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162  
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237  
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364  
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002  
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043  
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332  
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160  
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165  
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121  
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372  
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311  
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030  
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015  
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263  
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333  
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117  
\005\047\216\023\241\156\302

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 2"

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

```

# Serial Number: 1 (0x1)
# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Not Valid Before: Wed Oct 01 10:40:14 2008
# Not Valid After : Sat Oct 01 23:59:59 2033
# Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
# Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Atos TrustedRoot 2011"
#
# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
# Serial Number:5c:33:cb:62:2c:5f:b3:32
# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
# Not Valid Before: Thu Jul 07 14:58:30 2011
# Not Valid After : Tue Dec 31 23:59:59 2030
# Fingerprint (SHA-256):

```

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74  
# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Atos TrustedRoot 2011"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157  
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060  
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157  
\163\061\013\060\011\006\003\125\004\006\023\002\104\105  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157  
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060  
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157  
\163\061\013\060\011\006\003\125\004\006\023\002\104\105  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\010\134\063\313\142\054\137\263\062  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134  
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004  
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122  
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004  
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006  
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064  
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065  
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014  
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157  
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014  
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002  
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051  
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274  
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251  
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314  
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266  
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003  
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276  
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015  
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230

\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020  
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034  
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160  
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013  
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326  
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234  
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042  
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003  
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356  
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011  
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006  
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004  
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224  
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270  
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043  
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206  
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001  
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017  
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130  
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354  
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134  
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302  
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132  
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203  
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151  
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344  
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357  
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140  
\035\362\376\011\021\260\360\207\173\247\235

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Atos TrustedRoot 2011"

# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Serial Number:5c:33:cb:62:2c:5f:b3:32

# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Not Valid Before: Thu Jul 07 14:58:30 2011

# Not Valid After : Tue Dec 31 23:59:59 2030

# Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST



```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
END
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 1 G3"
#
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 17:27:44 2012
# Not Valid After : Sun Jan 12 17:27:44 2042
# Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063

```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003  
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\061\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023  
\050\265\226\324\145\223

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170  
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226  
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015  
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064  
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100  
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125  
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075  
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217  
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236  
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250  
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265  
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065  
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076  
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043  
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041  
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004  
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220  
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351  
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246  
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157  
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250  
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313

\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232  
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134  
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075  
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017  
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306  
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265  
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112  
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255  
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074  
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161  
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216  
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231  
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102  
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255  
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363  
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312  
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025  
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202  
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317  
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141  
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166  
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145  
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057  
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015  
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277  
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002  
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271  
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330  
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111  
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057  
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124  
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137  
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066  
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206  
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360  
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344  
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205  
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204  
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143  
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121  
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112  
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151  
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025

```
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207
\063\140\345\303
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 1 G3"
```

```
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
```

```
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
```

```
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Thu Jan 12 17:27:44 2012
```

```
# Not Valid After : Sun Jan 12 17:27:44 2042
```

```
# Fingerprint (SHA-256):
```

```
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
```

```
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```

# Certificate "QuoVadis Root CA 2 G3"
#
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 18:59:32 2012
# Not Valid After : Sun Jan 12 18:59:32 2042
# Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114

```

\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210  
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137  
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275  
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037  
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026  
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311  
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241  
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246  
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240  
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014  
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076  
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061  
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236  
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065  
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325  
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357  
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043  
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334  
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007  
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252  
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246  
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312  
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163  
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264  
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041  
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241  
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370  
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044  
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345  
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222  
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105  
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306  
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166  
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263  
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173  
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272  
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310  
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211  
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102

\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275  
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361  
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232  
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243  
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207  
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047  
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000  
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022  
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104  
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072  
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137  
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325  
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224  
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063  
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135  
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326  
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025  
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140  
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156  
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077  
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214  
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045  
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202  
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270  
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152  
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151  
\203\336\177\214

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "QuoVadis Root CA 2 G3"

# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

# Not Valid Before: Thu Jan 12 18:59:32 2012

# Not Valid After : Sun Jan 12 18:59:32 2042

# Fingerprint (SHA-256):

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2 G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341

```

\045\365\310\066
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3 G3"
#
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061

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\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003  
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275  
\003\240\317\022\152\035

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056  
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317  
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015  
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064  
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227  
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221  
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153  
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254  
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156  
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342  
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205  
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321  
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352  
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001  
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234  
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356  
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131  
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221  
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353  
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335  
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344  
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261  
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147  
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360  
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074  
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210

\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245  
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131  
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021  
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151  
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111  
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340  
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020  
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220  
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111  
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376  
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274  
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065  
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261  
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161  
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126  
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012  
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310  
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360  
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311  
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357  
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111  
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334  
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140  
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155  
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224  
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217  
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271  
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371  
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037  
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234  
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071  
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345  
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305  
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016  
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176  
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034  
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016  
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315  
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165  
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353  
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177  
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047  
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375

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\130\371\230\364
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "QuoVadis Root CA 3 G3"
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G2"
#
# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

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# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061\062
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
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\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050  
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200  
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317  
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063  
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034  
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154  
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114  
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351  
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171  
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335  
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100  
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161  
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323  
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056  
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171  
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372  
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001  
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026  
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275  
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310  
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170  
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245  
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110  
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321  
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175  
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342  
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033  
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302  
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375  
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015  
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127  
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257  
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336  
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067  
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050  
\042\023\163\154\317\046\365\212\051\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G2"

# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85

# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221

\223\121\135\077

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023

\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157

\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151

\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040

\122\157\157\164\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232

\364\113

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Assured ID Root G3"

#

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
```

\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004  
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056  
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151  
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111  
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127  
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137  
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135  
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111  
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320  
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051  
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004  
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316  
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003  
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113  
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221  
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130  
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345  
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161  
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057  
\352\226\143\152\145\105\222\225\001\264

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G3"

# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Assured ID Root G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110  
\054\253\060\211

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL



\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240  
\154\354

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Global Root G2"

#

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F

# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011  
\372\345

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003  
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060  
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220  
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210  
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254  
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124  
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261  
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335  
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266  
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220  
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127  
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343  
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263  
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125  
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014  
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020  
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207  
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305

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\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345
\062\266
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Global Root G2"
```

```
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
```

```
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
```

```
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Global Root G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011  
\372\345

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Global Root G3"

#

# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:DO

# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253  
\105\162

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005  
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060  
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003  
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156  
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056  
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036  
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040  
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036  
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027  
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013  
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352  
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106  
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056  
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235  
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316  
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035  
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305  
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061  
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163  
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236  
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177  
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111  
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210  
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174

```

\263\047\027
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "DigiCert Global Root G3"
# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Trusted Root G4"
#

```

```
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040
\107\064\060\036\027\015\061\063\060\070\060\061\061\062\060\060
```

\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060  
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151  
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004  
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056  
\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151  
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135  
\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362  
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033  
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035  
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037  
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223  
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337  
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325  
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233  
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100  
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216  
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117  
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221  
\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020  
\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253  
\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324  
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277  
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117  
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166  
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242  
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357  
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053  
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314  
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214  
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200  
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030  
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154  
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137  
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312  
\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121  
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036  
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055  
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202  
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303



\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232  
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066  
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351  
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374  
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235  
\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123  
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163  
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234  
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336  
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256  
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232  
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211  
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144  
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115  
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227  
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025  
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115  
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117  
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177  
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036  
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133  
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240  
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210  
\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344  
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117  
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065  
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301  
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350  
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246  
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344  
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274  
\317\363\146\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Trusted Root G4"

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO RSA Certification Authority"
#
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003  
\206\235

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114  
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201  
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125  
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125  
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023  
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163  
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141  
\154\146\157\162\144\061\032\060\030\006\003\125\004\012\023\021  
\103\117\115\117\104\117\040\103\101\040\114\151\155\151\164\145  
\144\061\053\060\051\006\003\125\004\003\023\042\103\117\115\117  
\104\117\040\122\123\101\040\103\145\162\164\151\146\151\143\141

\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\221  
\350\124\222\322\012\126\261\254\015\044\335\305\317\104\147\164  
\231\053\067\243\175\043\160\000\161\274\123\337\304\372\052\022  
\217\113\177\020\126\275\237\160\162\267\141\177\311\113\017\027  
\247\075\343\260\004\141\356\377\021\227\307\364\206\076\012\372  
\076\134\371\223\346\064\172\331\024\153\347\234\263\205\240\202  
\172\166\257\161\220\327\354\375\015\372\234\154\372\337\260\202  
\364\024\176\371\276\304\246\057\117\177\231\177\265\374\147\103  
\162\275\014\000\326\211\353\153\054\323\355\217\230\034\024\253  
\176\345\343\156\374\330\250\344\222\044\332\103\153\142\270\125  
\375\352\301\274\154\266\213\363\016\215\232\344\233\154\151\231  
\370\170\110\060\105\325\255\341\015\074\105\140\374\062\226\121  
\047\274\147\303\312\056\266\153\352\106\307\307\040\240\261\037  
\145\336\110\010\272\244\116\251\362\203\106\067\204\353\350\314  
\201\110\103\147\116\162\052\233\134\275\114\033\050\212\134\042  
\173\264\253\230\331\356\340\121\203\303\011\106\116\155\076\231  
\372\225\027\332\174\063\127\101\074\215\121\355\013\266\134\257  
\054\143\032\337\127\310\077\274\351\135\304\233\257\105\231\342  
\243\132\044\264\272\251\126\075\317\157\252\377\111\130\276\360  
\250\377\364\270\255\351\067\373\272\270\364\013\072\371\350\103  
\102\036\211\330\204\313\023\361\331\273\341\211\140\270\214\050  
\126\254\024\035\234\012\347\161\353\317\016\335\075\251\226\241  
\110\275\074\367\257\265\015\042\114\300\021\201\354\126\073\366  
\323\242\342\133\267\262\004\042\122\225\200\223\151\350\216\114  
\145\361\221\003\055\160\164\002\352\213\147\025\051\151\122\002  
\273\327\337\120\152\125\106\277\240\243\050\141\177\160\320\303  
\242\252\054\041\252\107\316\050\234\006\105\166\277\202\030\047  
\264\325\256\264\313\120\346\153\364\114\206\161\060\351\246\337  
\026\206\340\330\377\100\335\373\320\102\210\177\243\063\072\056  
\134\036\101\021\201\143\316\030\161\153\053\354\246\212\267\061  
\134\072\152\107\340\303\171\131\326\040\032\257\362\152\230\252  
\162\274\127\112\322\113\235\273\020\374\260\114\101\345\355\035  
\075\136\050\235\234\314\277\263\121\332\247\107\345\204\123\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\273\257\176\002\075\372\246\361\074\204\216\255\356  
\070\230\354\331\062\062\324\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\012\361\325\106  
\204\267\256\121\273\154\262\115\101\024\000\223\114\234\313\345  
\300\124\317\240\045\216\002\371\375\260\242\015\365\040\230\074  
\023\055\254\126\242\260\326\176\021\222\351\056\272\236\056\232  
\162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214  
\341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244  
\213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272  
\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225

\332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111  
\171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071  
\374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332  
\027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343  
\127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171  
\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231  
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043  
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221  
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212  
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312  
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224  
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036  
\216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314  
\314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035  
\173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213  
\113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342  
\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234  
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233  
\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336  
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116  
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245  
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174  
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354  
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301  
\065\123\205\006\112\135\237\255\273\033\137\164

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO RSA Certification Authority"

# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d

# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Not Valid Before: Tue Jan 19 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34

# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273

```

\315\172\214\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "USERTrust RSA Certification Authority"
#
# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013

```

\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065  
\003\055

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001  
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201  
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023  
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162  
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145  
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125  
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123  
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125  
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123  
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060  
\062\060\061\060\060\060\060\060\060\132\027\015\063\070\060\061  
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125  
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024  
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125  
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012

\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320  
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040  
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301  
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072  
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053  
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030  
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074  
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021  
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377  
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146  
\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376  
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366  
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040  
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106  
\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123  
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014  
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376  
\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372  
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304  
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154  
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223  
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331  
\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270  
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345  
\163\254\043\073\055\000\277\065\125\164\011\111\330\111\130\032  
\177\222\066\346\121\222\016\363\046\175\034\115\027\274\311\354  
\103\046\320\277\101\137\100\251\104\104\364\231\347\127\207\236  
\120\037\127\124\250\076\375\164\143\057\261\120\145\011\346\130  
\102\056\103\032\114\264\360\045\107\131\372\004\036\223\324\046  
\106\112\120\201\262\336\276\170\267\374\147\025\341\311\127\204  
\036\017\143\326\351\142\272\326\137\125\056\352\134\306\050\010  
\004\045\071\270\016\053\251\362\114\227\034\007\077\015\122\365  
\355\357\057\202\017\002\003\001\000\001\243\102\060\100\060\035  
\006\003\125\035\016\004\026\004\024\123\171\277\132\252\053\112  
\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015  
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002  
\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305  
\122\237\313\370\317\231\006\177\033\332\103\025\237\236\002\125  
\127\226\024\361\122\074\047\207\224\050\355\037\072\001\067\242  
\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216  
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250  
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113  
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367  
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214  
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257  
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354



\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227  
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346  
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021  
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341  
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345  
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336  
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157  
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354  
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031  
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310  
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167  
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177  
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207  
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356  
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101  
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204  
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301  
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201  
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217  
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135  
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306  
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220  
\250\375

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust RSA Certification Authority"

# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015  
\332\271\255\216

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265  
END

CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065  
\003\055  
END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#  
# Certificate "USERTrust ECC Certification Authority"  
#  
# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US  
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26  
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US  
# Not Valid Before: Mon Feb 01 00:00:00 2010  
# Not Valid After : Mon Jan 18 23:59:59 2038  
# Fingerprint (SHA-256):  
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A  
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "USERTrust ECC Certification Authority"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122

\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200  
\314\046

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134  
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006  
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171  
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145  
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023  
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023  
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006  
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164  
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040  
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162  
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122  
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150  
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321  
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005

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\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust ECC Certification Authority"

# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26

# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A

# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
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END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
```

```
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GlobalSign ECC Root CA - R5"

#

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24

# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign ECC Root CA - R5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
```

```
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign ECC Root CA - R5"
```

```

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Staat der Nederlanden Root CA - G3"
#
# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Serial Number: 10003001 (0x98a239)
# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Not Valid Before: Thu Nov 14 11:28:42 2013
# Not Valid After : Mon Nov 13 23:00:00 2028
# Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\242\071
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226
```



|042|106|005|260|355|255|307|133|236|052|336|234|374|072|306|225  
|247|365|027|147|030|347|057|111|010|014|134|317|346|314|064|355  
|170|373|120|261|334|153|062|360|242|376|266|074|344|354|132|227  
|307|077|036|160|010|060|240|334|305|263|155|157|320|202|162|021  
|253|322|201|150|131|202|027|267|170|222|140|372|314|336|077|204  
|353|215|070|063|220|012|162|043|372|065|314|046|161|061|321|162  
|050|222|331|133|043|155|146|265|155|007|102|353|246|063|316|222  
|333|300|366|154|143|170|315|312|116|075|265|345|122|233|361|276  
|073|346|124|140|260|146|036|011|253|007|376|124|211|021|102|321  
|367|044|272|140|170|032|230|367|311|021|375|026|301|065|032|124  
|165|357|103|323|345|256|116|316|347|173|303|306|116|141|121|113  
|253|232|105|113|241|037|101|275|110|123|025|161|144|013|206|263  
|345|056|276|316|244|033|301|051|204|242|265|313|010|043|166|103  
|042|044|037|027|004|324|156|234|306|374|177|053|146|032|354|212  
|345|326|317|115|365|143|011|267|025|071|326|173|254|353|343|174  
|351|116|374|165|102|310|355|130|225|014|006|102|242|234|367|344  
|160|263|337|162|157|132|067|100|211|330|205|244|327|361|013|336  
|103|031|324|112|130|054|214|212|071|236|277|204|207|361|026|073  
|066|014|351|323|264|312|154|031|101|122|011|241|035|260|152|277  
|202|357|160|121|041|062|334|005|166|214|313|367|144|344|003|120  
|257|214|221|147|253|305|362|356|130|330|336|276|367|347|061|317  
|154|311|073|161|301|325|210|265|145|274|300|350|027|027|007|022  
|265|134|322|253|040|223|264|346|202|203|160|066|305|315|243|215  
|255|213|354|243|301|103|207|346|103|342|064|276|225|213|065|355  
|007|071|332|250|035|172|237|066|236|022|260|014|145|022|220|025  
|140|331|046|100|104|343|126|140|245|020|324|152|074|375|101|334  
|016|132|107|266|357|227|141|165|117|331|376|307|262|035|324|355  
|135|111|263|251|152|313|146|204|023|325|134|240|334|337|156|167  
|006|321|161|165|310|127|157|257|017|167|133|002|003|001|000|001  
|243|102|060|100|060|017|006|003|125|035|023|001|001|377|004|005  
|060|003|001|001|377|060|016|006|003|125|035|017|001|001|377|004  
|004|003|002|001|006|060|035|006|003|125|035|016|004|026|004|024  
|124|255|372|307|222|127|256|312|065|234|056|022|373|344|272|135  
|040|334|224|127|060|015|006|011|052|206|110|206|367|015|001|001  
|013|005|000|003|202|002|001|000|060|231|235|005|062|310|136|016  
|073|230|001|072|212|244|347|007|367|172|370|347|232|337|120|103  
|123|227|052|075|312|074|107|230|056|341|025|173|361|222|363|141  
|332|220|045|026|145|300|237|124|135|016|003|073|133|167|002|234  
|204|266|015|230|137|064|335|073|143|302|303|050|201|302|234|051  
|056|051|342|310|303|001|362|063|352|052|252|314|011|010|367|145  
|147|306|315|337|323|266|053|247|275|314|321|016|160|137|270|043  
|321|313|221|116|012|364|310|172|345|331|143|066|301|324|337|374  
|042|227|367|140|135|352|051|057|130|262|275|130|275|215|226|117  
|020|165|277|110|173|075|121|207|241|074|164|042|302|374|007|177  
|200|334|304|254|376|152|301|160|060|260|351|216|151|342|054|151  
|201|224|011|272|335|376|115|300|203|214|224|130|300|106|040|257  
|234|037|002|370|065|125|111|057|106|324|300|360|240|226|002|017  
|063|305|161|363|236|043|175|224|267|375|072|323|011|203|006|041

```
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Staat der Nederlanden Root CA - G3"

# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Serial Number: 10003001 (0x98a239)

# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

# Not Valid Before: Thu Nov 14 11:28:42 2013

# Not Valid After : Mon Nov 13 23:00:00 2028

# Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
```

```
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\000\230\242\071
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "IdenTrust Commercial Root CA 1"

#

# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

# Not Valid Before: Thu Jan 16 18:12:23 2014

# Not Valid After : Mon Jan 16 18:12:23 2034

# Fingerprint (SHA-256):

```
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
```

# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IdenTrust Commercial Root CA 1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012  
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156  
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154  
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064  
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060  
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125  
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060  
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157  
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063  
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123  
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174  
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103  
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224  
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207  
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302  
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051  
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324  
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242  
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365  
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022  
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353  
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142  
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111  
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205  
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213  
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363  
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176  
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312  
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117  
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054  
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112  
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202  
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350  
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323  
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360  
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330  
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157  
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164

\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303  
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115  
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300  
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141  
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256  
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007  
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255  
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270  
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055  
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075  
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216  
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167  
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372  
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353  
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067  
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202  
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200  
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112  
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371  
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023  
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123  
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240  
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324  
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352  
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151  
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225  
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106  
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140  
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315  
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331  
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147  
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161  
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200  
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253  
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030  
\272\204\156\207

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Commercial Root CA 1"  
# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

```

# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 18:12:23 2014
# Not Valid After : Mon Jan 16 18:12:23 2034
# Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IdenTrust Public Sector Root CA 1"
#
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 17:53:32 2014
# Not Valid After : Mon Jan 16 17:53:32 2034
# Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122
```

\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255  
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015  
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105  
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114  
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200  
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321  
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246  
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252  
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360  
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066  
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131  
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362  
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353  
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166  
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125  
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001  
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045  
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331  
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146  
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034  
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025  
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000  
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303  
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003  
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223  
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021  
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214  
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043  
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156  
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162  
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325  
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016  
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276  
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075  
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077  
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130  
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006  
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270  
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237  
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026  
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050  
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027  
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337



```
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245
\267\254\266\255\267\312\076\001\357\234
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "IdenTrust Public Sector Root CA 1"
```

```
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
```

```
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Not Valid Before: Thu Jan 16 17:53:32 2014
```

```
# Not Valid After : Mon Jan 16 17:53:32 2034
```

```
# Fingerprint (SHA-256):
```

```
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
```

```
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
```

```
\155\115\105\375
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
```

```
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
```

```
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
```

```
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - G2"
#
# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number: 1246989352 (0x4a538c28)
# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Jul 07 17:25:54 2009
# Not Valid After : Sat Dec 07 17:55:54 2030
# Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
```

\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\112\123\214\050

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112  
\123\214\050\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003  
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164  
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164  
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050  
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054  
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163  
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062  
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065  
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156  
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006  
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156  
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055  
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060  
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165  
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351  
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162  
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323

\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152  
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150  
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215  
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107  
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156  
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126  
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233  
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237  
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365  
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352  
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123  
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364  
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215  
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036  
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003  
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377  
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124  
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151  
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031  
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232  
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074  
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257  
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277  
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306  
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021  
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207  
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130  
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207  
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005  
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213  
\105\366

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - G2"

# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

```

# Not Valid After : Sat Dec 07 17:55:54 2030
# Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - EC1"
#
# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9
# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Dec 18 15:25:36 2012

```

# Not Valid After : Fri Dec 18 15:55:36 2037

# Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060  
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105  
\103\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000  
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010  
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006

\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004  
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056  
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167  
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154  
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003  
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156  
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157  
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145  
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062  
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061  
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003  
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156  
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145  
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067  
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040  
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040  
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165  
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003  
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020  
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042  
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353  
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361  
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155  
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352  
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256  
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107  
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016  
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244  
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316  
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102  
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321  
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365  
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327  
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247  
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270  
\231\267\046\101\133\045\140\256\320\110\032\356\006

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - EC1"

# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9

# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Dec 18 15:25:36 2012

# Not Valid After : Fri Dec 18 15:55:36 2037

# Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212

\353\024\265\107

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165

\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004

\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165

\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162

\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051

\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111

\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162

\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060

\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040

\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151

\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105

\103\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE



```
#
# Certificate "CFCA EV ROOT"
#
# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
# Serial Number: 407555286 (0x184accd6)
# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
# Not Valid Before: Wed Aug 08 03:07:01 2012
# Not Valid After : Mon Dec 31 03:07:01 2029
# Fingerprint (SHA-256):
5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD
# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011
```

\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125  
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143  
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006  
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117  
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067  
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020  
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014  
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113  
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075  
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361  
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371  
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270  
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261  
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051  
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172  
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335  
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163  
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263  
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105  
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055  
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243  
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170  
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317  
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132  
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001  
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055  
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055  
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270  
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140  
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145  
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360  
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325  
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053  
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177  
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157  
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377  
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003  
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247

\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227  
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323  
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036  
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006  
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113  
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353  
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071  
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122  
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375  
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161  
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262  
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277  
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111  
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175  
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324  
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167  
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135  
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136  
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361  
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315  
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332  
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144  
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136  
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221  
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347  
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231  
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325  
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222  
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331  
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243  
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173  
\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CFCA EV ROOT"

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

# Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GB CA"
#
# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
# Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Mon Dec 01 15:00:32 2014
# Not Valid After : Thu Dec 01 15:10:31 2039
# Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144

```

\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101  
END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101  
END

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366  
\302\300  
END

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166  
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060  
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027  
\015\061\064\061\062\060\061\061\065\061\060\063\061\132\027\015  
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061  
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016  
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042  
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106  
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163  
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123  
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141  
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267  
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365  
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046  
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261  
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255  
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315  
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127  
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157  
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161

\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144  
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121  
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376  
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117  
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206  
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351  
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153  
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001  
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003  
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065  
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343  
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001  
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201  
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041  
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161  
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224  
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071  
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313  
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012  
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316  
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330  
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354  
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337  
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004  
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332  
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034  
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307  
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176  
\065\255\201\307\116\161\272\210\023

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISeKey Global Root GB CA"

# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

# Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Mon Dec 01 15:00:32 2014

# Not Valid After : Thu Dec 01 15:10:31 2039

# Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SZAFIR ROOT CA2"
#
# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Not Valid Before: Mon Oct 19 07:43:30 2015
# Not Valid After : Fri Oct 19 07:43:30 2035
# Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156

```

\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125  
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040  
\103\101\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167  
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156  
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125  
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040  
\103\101\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001  
\353\055\334\344\326\344

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076  
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334  
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120  
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152  
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172  
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006  
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117  
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060  
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067  
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006  
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113  
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154  
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030  
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040  
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315  
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173  
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205  
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123  
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222  
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112  
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260  
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332  
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266  
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372  
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073  
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301  
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371



\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002  
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334  
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315  
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026  
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254  
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351  
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344  
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160  
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157  
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162  
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206  
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314  
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203  
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217  
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120  
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353  
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262  
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076  
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227  
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240  
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212  
\326\040\036\343\163\267

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SZAFIR ROOT CA2"

# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Not Valid Before: Mon Oct 19 07:43:30 2015

# Not Valid After : Fri Oct 19 07:43:30 2035

# Fingerprint (SHA-256):

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE

# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SZAFIR ROOT CA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317

\136\263\077\336

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA 2"
#
# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Thu Oct 06 08:39:56 2011
# Not Valid After : Sat Oct 06 08:39:56 2046
# Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124

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\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\040\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060  
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124  
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\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022  
\215\351

END

CKA\_VALUE MULTILINE\_OCTAL

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\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201  
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042  
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157  
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006  
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040  
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063  
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070  
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031  
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125  
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151  
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\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047  
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302

\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334  
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101  
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111  
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215  
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104  
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300  
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\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204  
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167  
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150  
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146  
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061  
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150  
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242  
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032  
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165  
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226  
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272  
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\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263  
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\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054  
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022  
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276  
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375  
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\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102  
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\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241  
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072  
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005  
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325  
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020  
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157  
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024  
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337  
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130  
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204  
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\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024  
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343  
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046  
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311  
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111  
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377  
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333

\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326  
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\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264  
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\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045  
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\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026  
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015  
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343  
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304  
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022  
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317  
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030  
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\016\265\271\276\044\217

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Network CA 2"

# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Not Valid Before: Thu Oct 06 08:39:56 2011

# Not Valid After : Sat Oct 06 08:39:56 2046

# Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317  
\323\334\060\222

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114

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\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions RootCA 2015"

#

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:11:21 2015

# Not Valid After : Sat Jun 30 10:11:21 2040

# Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
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\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\001\000
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END

CKA\_VALUE MULTILINE\_OCTAL

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\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163
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\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067
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\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006
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\144\365\015\030\207\331\256\210\325\372\204\301\072\300\151\050  
\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213  
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040  
\231\111\031\266\022\106\261\373\105\125\026\251\243\145\254\234  
\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333  
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027  
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135  
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165  
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010  
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265  
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144  
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010  
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126  
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041  
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055  
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343  
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164  
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225  
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142



```
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214
\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hellenic Academic and Research Institutions RootCA 2015"

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:11:21 2015

# Not Valid After : Sat Jun 30 10:11:21 2040

# Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352
\051\351\022\246
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003  
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157  
\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

#

# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and  
Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165

\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003  
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003  
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000  
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061  
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015  
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060  
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162  
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145  
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040  
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163  
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157  
\157\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060  
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066  
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011  
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125  
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003  
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171  
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164

```
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"
```

```
# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR
```

```
# Not Valid Before: Tue Jul 07 10:37:12 2015
```

```
# Not Valid After : Sat Jun 30 10:37:12 2040
```

```
# Fingerprint (SHA-256):
```

```
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
```

```
# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003  
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ISRG Root X1"

#

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143  
\202\213\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000  
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051  
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145  
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141  
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125  
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061  
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070  
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034  
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165  
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104  
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176  
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232  
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255  
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224  
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157  
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003  
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026  
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173  
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023  
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207  
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064  
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320  
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002  
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016  
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326

\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057  
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254  
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335  
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247  
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121  
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163  
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347  
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060  
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272  
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360  
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152  
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367  
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210  
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063  
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001  
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125  
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051  
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113  
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140  
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340  
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220  
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357  
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372  
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212  
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211  
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267  
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071  
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206  
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211  
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053  
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025  
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327  
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102  
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114  
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123  
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134  
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171  
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055  
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152  
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055  
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334  
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300  
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044  
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172

```
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "ISRG Root X1"

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ISRG Root X1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#



```

# Certificate "AC RAIZ FNMT-RCM"
#
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Not Valid Before: Wed Oct 29 15:59:56 2008
# Not Valid After : Tue Jan 01 00:00:00 2030
# Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060

```

\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177  
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232  
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222  
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037  
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301  
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076  
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063  
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243  
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012  
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105  
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217  
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005  
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231  
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136  
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034  
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002  
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120  
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171  
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013  
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356  
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161  
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173  
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123  
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302  
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222  
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143  
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354  
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166  
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007  
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313  
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255  
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257  
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203  
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367  
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207  
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063  
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005  
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167  
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160  
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303  
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376  
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023  
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165  
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367  
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133

\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014  
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047  
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346  
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137  
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372  
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212  
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215  
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031  
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040  
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346  
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274  
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353  
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351  
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233  
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301  
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351  
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371  
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147  
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101  
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346  
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125  
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044  
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360  
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004  
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057  
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121  
\072\117\110\366\213\266\263

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC RAIZ FNMT-RCM"

# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

# Not Valid Before: Wed Oct 29 15:59:56 2008

# Not Valid After : Tue Jan 01 00:00:00 2030

# Fingerprint (SHA-256):

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA

# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231

```

\054\114\054\040
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 1"
#
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sun Jan 17 00:00:00 2038
# Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

```

\156\040\122\157\157\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103  
\346\226\066\133\312

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006  
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066  
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\063  
\070\060\061\061\067\060\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060  
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343  
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367  
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172  
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114  
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336  
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344  
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260  
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120  
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226  
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272  
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164  
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062  
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113  
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157  
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234  
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046  
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314  
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012  
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121  
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060  
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310  
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174  
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030

```
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 1"
```

```
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
```

```
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sun Jan 17 00:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
```

```
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Amazon Root CA 2"
```

```
#
```

```
# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
```

```
# Subject: CN=Amazon Root CA 2,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sat May 26 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
```

```
# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 2"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
```

```
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
```

```
\156\040\122\157\157\164\040\103\101\040\062
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
```

```
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
```

```
\156\040\122\157\157\164\040\103\101\040\062
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
```

```
\133\046\273\212\067
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006
```

```
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273
```

```
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005
```

```
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
```

```
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
```

```
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
```

```
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015
```

```
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064
```

\060\060\065\062\066\060\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112  
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374  
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204  
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331  
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222  
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015  
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340  
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232  
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277  
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112  
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000  
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112  
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153  
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354  
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117  
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236  
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053  
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001  
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321  
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063  
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263  
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143  
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313  
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236  
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063  
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003  
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011  
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072  
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201  
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010  
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010  
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225  
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360  
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146  
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315  
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366  
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131  
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240



\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030  
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003  
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317  
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022  
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030  
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047  
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045  
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034  
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123  
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046  
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155  
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257  
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345  
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233  
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015  
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176  
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230  
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157  
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267  
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060  
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041  
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204  
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264  
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357  
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007  
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045  
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321  
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323  
\340\373\011\140\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 2"

# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

# Subject: CN=Amazon Root CA 2,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 2"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 3"
#
# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
# Subject: CN=Amazon Root CA 3,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350  
\236\166\003\362\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006  
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003  
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002  
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051  
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245  
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163  
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150  
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253  
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031  
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003  
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053  
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170  
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234  
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214  
\143\044\110\034\337\060\175\325\150\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 3"

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

```

# Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 4"
#
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173  
\054\310\032\301\016

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006  
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032  
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002  
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067  
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142  
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360  
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026  
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144  
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142  
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072  
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201  
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060  
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057  
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160  
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065  
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221  
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226  
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265

\012\166\324\245\274\020

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 4"

# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

# Subject: CN=Amazon Root CA 4,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256

\034\357\143\276

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173

\054\310\032\301\016

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Symantec Class 1 Public Primary Certification Authority - G6"

#

# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

```
# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
```

\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327  
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203  
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001  
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375  
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050  
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100  
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174  
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307  
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237  
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333  
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047  
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254  
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021  
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217  
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065  
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362  
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132  
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027  
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253  
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007  
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217  
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257  
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024



```
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364
\322\063\340\377\275\321\124\071\051\017
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# For Email Distrust After: Wed Aug 31 00:00:00 2022
```

```
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
```

```
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

```
# Trust for "Symantec Class 1 Public Primary Certification Authority - G6"
```

```
# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
```

```
# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
```

```
# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
```

```
# Not Valid Before: Tue Oct 18 00:00:00 2011
```

```
# Not Valid After : Tue Dec 01 23:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
```

```
# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303
\314\123\155\144
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
```

```
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Symantec Class 2 Public Primary Certification Authority - G6"

#

# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41

# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0

# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261  
\377\101

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144  
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351  
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147  
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023  
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256  
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154  
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326  
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326

\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061  
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341  
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000  
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262  
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061  
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137  
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215  
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322  
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137  
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064  
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226  
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301  
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000  
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013  
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366  
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156  
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266  
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160  
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356  
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275  
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113  
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231  
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246  
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035  
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326  
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376  
\157\374\132\344\202\125\131\257\061\251

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
# For Email Distrust After: Wed Aug 31 00:00:00 2022  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL  
\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Symantec Class 2 Public Primary Certification Authority - G6"  
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US  
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41  
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US  
# Not Valid Before: Tue Oct 18 00:00:00 2011  
# Not Valid After : Tue Dec 01 23:59:59 2037

```

# Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
\121\324\035\217
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root CA 3 2013"
#
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352
```

\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121  
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075  
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256  
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077  
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357  
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174  
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263  
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157  
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276  
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240  
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164  
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057  
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157  
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061  
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155  
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143  
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163  
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057  
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057  
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164  
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234  
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237  
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317  
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175  
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040  
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065  
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210  
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157  
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246  
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303  
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115  
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223  
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113  
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147  
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155  
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111  
\137\134

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root CA 3 2013"

```

# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Serial Number: 1 (0x1)
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Not Valid Before: Mon Nov 25 08:25:55 2013
# Not Valid After : Sun Oct 25 08:25:55 2043
# Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

```



```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125
```

\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151  
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152  
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162  
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060  
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162  
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145  
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064  
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113  
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123  
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162  
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070  
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062  
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006  
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107  
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102  
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145  
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153  
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155  
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124  
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155  
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040  
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123  
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111  
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040  
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040  
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273  
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377  
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372  
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253  
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154  
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320  
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153  
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000  
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116  
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227  
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332  
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311  
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177  
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054  
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352  
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037  
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077  
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107  
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003

```
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
```

```
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
```

```
# Not Valid Before: Mon Nov 25 08:25:55 2013
```

```
# Not Valid After : Sun Oct 25 08:25:55 2013
```

```
# Fingerprint (SHA-256):
```

```
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
```

```
# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
```

```
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\001
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GDCA TrustAUTH R5 ROOT"

#

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
```

\122\117\117\124

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040  
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105  
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114  
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104  
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040  
\122\117\117\124

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\175\011\227\376\360\107\352\172

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175  
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004  
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051  
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111  
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131  
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125  
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125  
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064  
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061  
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011  
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125  
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103  
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117  
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060  
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165  
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331  
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374  
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143  
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311  
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127  
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143  
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072  
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032  
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256  
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357  
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214  
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043  
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020  
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064

\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146  
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144  
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275  
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166  
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247  
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011  
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017  
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227  
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040  
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244  
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245  
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355  
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202  
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271  
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177  
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000  
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155  
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032  
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077  
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340  
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021  
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062  
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146  
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267  
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347  
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371  
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066  
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223  
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362  
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160  
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067  
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337  
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115  
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057  
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340  
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202  
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320  
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050  
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367  
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163  
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125  
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223  
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375

```
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GDCA TrustAUTH R5 ROOT"
```

```
# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
```

```
# Serial Number:7d:09:97:fe:f0:47:ea:7a
```

```
# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
```

```
# Not Valid Before: Wed Nov 26 05:13:15 2014
```

```
# Not Valid After : Mon Dec 31 15:59:59 2040
```

```
# Fingerprint (SHA-256):
```

```
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
```

```
# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\175\011\227\376\360\107\352\172
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor RootCert CA-1"
#
# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:00:da:9b:ec:71:f3:03:b0:19
# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:16 2016
# Not Valid After : Mon Dec 31 17:23:16 2029
# Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

```



\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000  
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003  
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010  
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060  
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162  
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036  
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027  
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201  
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017  
\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061  
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141  
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033  
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163  
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006  
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124  
\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164  
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063  
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173  
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235  
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034  
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265  
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325  
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044  
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264  
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236  
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220  
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330  
\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225  
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132

\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020  
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326  
\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334  
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077  
\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037  
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172  
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123  
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134  
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110  
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162  
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345  
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237  
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072  
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224  
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031  
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144  
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027  
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154  
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024  
\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167  
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115  
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074  
\132\171\054\031

END

CKA\_NSS\_Mozilla\_CA\_POLICY CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSt\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUSt\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-1"

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072  
\105\133\303\012

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TrustCor RootCert CA-2"

#

# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:25:a1:df:ca:33:cb:59:02

# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:23 2016

# Not Valid After : Sun Dec 31 17:26:39 2034

# Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\057\060\202\004\027\240\003\002\001\002\002\010\045
\241\337\312\063\313\131\002\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060\035
```

\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162\040  
\122\157\157\164\103\145\162\164\040\103\101\055\062\060\036\027  
\015\061\066\060\062\060\064\061\062\063\062\062\063\132\027\015  
\063\064\061\062\063\061\061\067\062\066\063\071\132\060\201\244  
\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017\060  
\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061\024  
\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141\040  
\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033\124  
\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163\040  
\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006\003  
\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103\145  
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162  
\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124\162  
\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164\040  
\103\101\055\062\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\247\040\156\302\052\242\142\044\225\220\166  
\310\070\176\200\322\253\301\233\145\005\224\364\301\012\020\325  
\002\254\355\237\223\307\207\310\260\047\053\102\014\075\012\076  
\101\132\236\165\335\215\312\340\233\354\150\062\244\151\222\150  
\214\013\201\016\126\240\076\032\335\054\045\024\202\057\227\323  
\144\106\364\124\251\334\072\124\055\061\053\231\202\362\331\052  
\327\357\161\000\270\061\244\276\172\044\007\303\102\040\362\212  
\324\222\004\033\145\126\114\154\324\373\266\141\132\107\043\264  
\330\151\264\267\072\320\164\074\014\165\241\214\116\166\241\351  
\333\052\245\073\372\316\260\377\176\152\050\375\047\034\310\261  
\351\051\361\127\156\144\264\320\301\025\155\016\276\056\016\106  
\310\136\364\121\376\357\016\143\072\073\161\272\317\157\131\312  
\014\343\233\135\111\270\114\342\127\261\230\212\102\127\234\166  
\357\357\275\321\150\250\322\364\011\273\167\065\276\045\202\010  
\304\026\054\104\040\126\251\104\021\167\357\135\264\035\252\136  
\153\076\213\062\366\007\057\127\004\222\312\365\376\235\302\351  
\350\263\216\114\113\002\061\331\344\074\110\202\047\367\030\202  
\166\110\072\161\261\023\241\071\325\056\305\064\302\035\142\205  
\337\003\376\115\364\257\075\337\134\133\215\372\160\341\245\176  
\047\307\206\056\152\217\022\306\204\136\103\121\120\234\031\233  
\170\346\374\366\355\107\176\173\075\146\357\023\023\210\137\074  
\241\143\373\371\254\207\065\237\363\202\236\244\077\012\234\061  
\151\213\231\244\210\112\216\156\146\115\357\026\304\017\171\050  
\041\140\015\205\026\175\327\124\070\361\222\126\375\265\063\114  
\203\334\327\020\237\113\375\306\370\102\275\272\174\163\002\340  
\377\175\315\133\341\324\254\141\173\127\325\112\173\133\324\205  
\130\047\135\277\370\053\140\254\240\046\256\024\041\047\306\167  
\232\063\200\074\136\106\077\367\303\261\243\206\063\306\350\136  
\015\271\065\054\252\106\301\205\002\165\200\240\353\044\373\025  
\252\344\147\177\156\167\077\364\004\212\057\174\173\343\027\141  
\360\335\011\251\040\310\276\011\244\320\176\104\303\262\060\112  
\070\252\251\354\030\232\007\202\053\333\270\234\030\255\332\340

\106\027\254\317\135\002\003\001\000\001\243\143\060\141\060\035  
\006\003\125\035\016\004\026\004\024\331\376\041\100\156\224\236  
\274\233\075\234\175\230\040\031\345\214\060\142\262\060\037\006  
\003\125\035\043\004\030\060\026\200\024\331\376\041\100\156\224  
\236\274\233\075\234\175\230\040\031\345\214\060\142\262\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\236\105\236\014\073\266\357\341\072\310\174\321\000  
\075\317\342\352\006\265\262\072\273\006\113\150\172\320\043\227  
\164\247\054\360\010\330\171\132\327\132\204\212\330\022\232\033  
\331\175\134\115\160\305\245\371\253\345\243\211\211\335\001\372  
\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376  
\061\147\024\151\130\220\012\252\013\356\067\043\307\120\121\264  
\365\176\236\343\173\367\344\314\102\062\055\111\014\313\377\111  
\014\233\036\064\375\156\156\226\212\171\003\266\157\333\011\313  
\375\137\145\024\067\341\070\365\363\141\026\130\344\265\155\015  
\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212  
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127  
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117  
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070  
\224\300\341\320\205\017\273\355\054\163\253\355\376\222\166\032  
\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074  
\205\300\317\343\220\250\203\167\372\333\346\305\214\150\147\020  
\147\245\122\055\360\304\231\217\177\277\321\153\342\265\107\326  
\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021  
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301  
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273  
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376  
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206  
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367  
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264  
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367  
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301  
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027  
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222  
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051  
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101  
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226  
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156  
\326\354\011

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER\_MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-2"

# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:25:a1:df:ca:33:cb:59:02

# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:23 2016

# Not Valid After : Sun Dec 31 17:26:39 2034

# Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor RootCert CA-2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307

\224\262\034\300

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101

\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155

\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141

\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012

\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145

\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060

\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162

\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014

\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145

\162\164\040\103\101\055\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\045\241\337\312\063\313\131\002

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```

#
# Certificate "TrustCor ECA-1"
#
# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Serial Number:00:84:82:2c:5f:1c:62:d0:40
# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:33 2016
# Not Valid After : Mon Dec 31 17:28:07 2029
# Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\204\202\054\137\034\142\320\100
END

```



CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000  
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003  
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010  
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060  
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162  
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064  
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061  
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125  
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014  
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007  
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060  
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162  
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122  
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162  
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025  
\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040  
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333  
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137  
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001  
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200  
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372  
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015  
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071  
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271  
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037  
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256  
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061  
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075  
\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177  
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221  
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354  
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105  
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155  
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037  
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314  
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060

```
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242
\264\237\327\346
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\132
```

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\132
```

END

# Trust for "TrustCor ECA-1"

# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:84:82:2c:5f:1c:62:d0:40

# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:33 2016

# Not Valid After : Mon Dec 31 17:28:07 2029

# Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor ECA-1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204  
\013\310\170\275

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014  
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com Root Certification Authority RSA"

#

# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:7b:2c:9b:d3:16:80:32:99

# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 17:39:39 2016

# Not Valid After : Tue Feb 12 17:39:39 2041

# Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040

\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173  
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005  
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007  
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012  
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157  
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056  
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067  
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063  
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157  
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205  
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221  
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026  
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375  
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227  
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154

|312|363|101|330|355|320|350|374|077|141|110|355|260|003|024|035  
|020|016|113|031|340|273|116|354|206|145|377|066|363|136|147|002  
|013|235|206|125|141|375|172|070|355|376|342|031|000|267|157|241  
|120|142|165|164|074|240|372|310|045|222|264|156|172|042|307|370  
|036|241|343|262|335|221|061|253|053|035|004|377|245|112|004|067  
|351|205|244|063|053|375|342|326|125|064|174|031|244|112|150|307  
|262|250|323|267|312|241|223|210|353|301|227|274|214|371|035|331  
|042|204|044|164|307|004|075|152|251|051|223|314|353|270|133|341  
|376|137|045|252|064|130|310|301|043|124|235|033|230|021|303|070  
|234|176|075|206|154|245|017|100|206|174|002|364|134|002|117|050  
|313|256|161|237|017|072|310|063|376|021|045|065|352|374|272|305  
|140|075|331|174|030|325|262|251|323|165|170|003|162|042|312|072  
|303|037|357|054|345|056|251|372|236|054|266|121|106|375|257|003  
|326|352|140|150|352|205|026|066|153|205|351|036|300|263|335|304  
|044|334|200|052|201|101|155|224|076|310|340|311|201|101|000|236  
|136|277|177|305|010|230|242|030|054|102|100|263|371|157|070|047  
|113|116|200|364|075|201|107|340|210|174|352|034|316|265|165|134  
|121|056|034|053|177|032|162|050|347|000|265|321|164|306|327|344  
|237|255|007|223|266|123|065|065|374|067|344|303|366|135|026|276  
|041|163|336|222|012|370|240|143|152|274|226|222|152|076|370|274  
|145|125|233|336|365|015|211|046|004|374|045|032|246|045|151|313  
|302|155|312|174|342|131|137|227|254|353|357|056|310|274|327|033  
|131|074|053|314|362|031|310|223|153|047|143|031|317|374|351|046  
|370|312|161|233|177|223|376|064|147|204|116|231|353|374|263|170  
|011|063|160|272|146|246|166|355|033|163|353|032|245|015|304|042  
|023|040|224|126|012|116|054|154|116|261|375|317|234|011|272|242  
|063|355|207|002|003|001|000|001|243|143|060|141|060|035|006|003  
|125|035|016|004|026|004|024|335|004|011|007|242|365|172|175|122  
|123|022|222|225|356|070|200|045|015|246|131|060|017|006|003|125  
|035|023|001|001|377|004|005|060|003|001|001|377|060|037|006|003  
|125|035|043|004|030|060|026|200|024|335|004|011|007|242|365|172  
|175|122|123|022|222|225|356|070|200|045|015|246|131|060|016|006  
|003|125|035|017|001|001|377|004|004|003|002|001|206|060|015|006  
|011|052|206|110|206|367|015|001|001|013|005|000|003|202|002|001  
|000|040|030|021|224|051|373|046|235|034|036|036|160|141|361|225  
|162|223|161|044|255|150|223|130|216|062|257|033|263|160|003|374  
|045|053|164|205|220|075|170|152|364|271|213|245|227|073|265|030  
|221|273|036|247|371|100|133|221|371|125|231|257|036|021|320|134  
|035|247|146|343|261|224|007|014|062|071|246|352|033|260|171|330  
|035|234|160|104|343|212|335|304|371|225|037|212|070|103|077|001  
|205|245|107|247|075|106|262|274|345|042|150|367|173|234|330|054  
|076|012|041|310|055|063|254|277|305|201|231|061|164|301|165|161  
|305|276|261|360|043|105|364|235|153|374|031|143|235|243|274|004  
|306|030|013|045|273|123|211|017|263|200|120|336|105|356|104|177  
|253|224|170|144|230|323|366|050|335|207|330|160|145|164|373|016  
|271|023|353|247|017|141|251|062|226|314|336|273|355|143|114|030  
|273|251|100|367|240|124|156|040|210|161|165|030|352|172|264|064  
|162|340|043|047|167|134|266|220|352|206|045|100|253|357|063|017

```
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047
\271
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SSL.com Root Certification Authority RSA"
```

```
# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
```

```
# Serial Number:7b:2c:9b:d3:16:80:32:99
```

```
# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
```

```
# Not Valid Before: Fri Feb 12 17:39:39 2016
```

```
# Not Valid After : Tue Feb 12 17:39:39 2041
```

```
# Fingerprint (SHA-256):
```

```
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
```

```
# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
```

```
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\173\054\233\323\026\200\062\231
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com Root Certification Authority ECC"

#

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

# Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
```

\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\165\346\337\313\301\150\133\250

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165  
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075  
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170  
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165  
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123  
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061  
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103  
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060\063  
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063  
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057  
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236  
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263  
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310  
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360  
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323  
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340  
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125  
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216  
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004  
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010  
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157  
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023  
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273  
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002  
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076



```
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SSL.com Root Certification Authority ECC"
# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:75:e6:df:cb:c1:68:5b:a8
# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:14:03 2016
# Not Valid After : Tue Feb 12 18:14:03 2041
# Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
```

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "SSL.com EV Root Certification Authority RSA R2"
#
# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:56:b6:29:cd:34:bc:78:f6
# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Wed May 31 18:14:37 2017
# Not Valid After : Fri May 30 18:14:37 2042
# Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
```

\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014  
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004  
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151  
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114  
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061  
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062  
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006  
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006  
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060  
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160  
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003  
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352  
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206  
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050  
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237  
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235  
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242  
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132  
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253  
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124  
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175  
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322  
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136  
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021  
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212  
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041  
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000  
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354  
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107  
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220  
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125  
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354  
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025  
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002  
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201  
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016  
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156  
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354  
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256  
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071

\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304  
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230  
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365  
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125  
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366  
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003  
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270  
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126  
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121  
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377  
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371  
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305  
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125  
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040  
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214  
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327  
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014  
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150  
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342  
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263  
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233  
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306  
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355  
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135  
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312  
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046  
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224  
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155  
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212  
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203  
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261  
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020  
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141  
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103  
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042  
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065  
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027  
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073  
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356  
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "SSL.com EV Root Certification Authority RSA R2"
# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:56:b6:29:cd:34:bc:78:f6
# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Wed May 31 18:14:37 2017
# Not Valid After : Fri May 30 18:14:37 2042
# Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority ECC"
#
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:2c:29:9c:5b:16:ed:05:95
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:15:23 2016

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# Not Valid After : Tue Feb 12 18:15:23 2041
# Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070
```

\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061  
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157  
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107  
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006  
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000  
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336  
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134  
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056  
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060  
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345  
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312  
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227  
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150  
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331  
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373  
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166  
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140  
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045  
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250  
\371\007\340\142\232\214\134\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority ECC"  
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US  
# Serial Number:2c:29:9c:5b:16:ed:05:95  
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US  
# Not Valid Before: Fri Feb 12 18:15:23 2016  
# Not Valid After : Tue Feb 12 18:15:23 2041  
# Fingerprint (SHA-256):  
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8  
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE

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CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
\307\106\102\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R6"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Not Valid Before: Wed Dec 10 00:00:00 2014
# Not Valid After : Sun Dec 10 00:00:00 2034
# Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040

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\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105  
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006  
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040  
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064  
\061\062\061\060\060\060\060\060\060\060\132\027\015\063\064\061  
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036  
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023  
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123  
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154  
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371  
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110  
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052  
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024  
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144  
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170  
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032  
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103  
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276  
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143  
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160  
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377  
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112  
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260  
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220  
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030

\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127  
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340  
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104  
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066  
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026  
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355  
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341  
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300  
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165  
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047  
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060  
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323  
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130  
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214  
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204  
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036  
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143  
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154  
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147  
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256  
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310  
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315  
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350  
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267  
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255  
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170  
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243  
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265  
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035  
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332  
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343  
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106  
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171  
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337  
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173  
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257  
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163  
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250  
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002  
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151  
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353  
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154  
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354  
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226  
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005

```
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root CA - R6"
```

```
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
```

```
# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
```

```
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
```

```
# Not Valid Before: Wed Dec 10 00:00:00 2014
```

```
# Not Valid After : Sun Dec 10 00:00:00 2034
```

```
# Fingerprint (SHA-256):
```

```
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
```

```
# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "OISTE WISeKey Global Root GC CA"

#

# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

# Not Valid Before: Tue May 09 09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042

# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISeKey Global Root GC CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055  
\072\352

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041  
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060  
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060  
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003  
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040

\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165  
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144  
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105  
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040  
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067  
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060  
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011  
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125  
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006  
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156  
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061  
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040  
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122  
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342  
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303  
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202  
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026  
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065  
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061  
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323  
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325  
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122  
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155  
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040  
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215  
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302  
\242\355\357\173\260\200\117\130\017\113\123\071\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GC CA"

# Issuer: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Not Valid Before: Tue May 09 09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042

# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Global G2 Root"
#
# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 11 00:00:00 2016
# Not Valid After : Mon Dec 31 00:00:00 2040
# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003  
\220\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135  
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060  
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164  
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107  
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027  
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015  
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061  
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017  
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061  
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154  
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053  
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232  
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114  
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275  
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165  
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016  
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346  
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150  
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130  
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321  
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207  
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206  
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334  
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350  
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262  
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043  
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057

\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307  
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330  
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101  
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112  
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257  
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303  
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153  
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345  
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203  
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107  
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172  
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104  
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106  
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317  
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246  
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025  
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053  
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043  
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313  
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004  
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071  
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144  
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303  
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345  
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216  
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332  
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024  
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015  
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200  
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325  
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304  
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243  
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343  
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024  
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365  
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233  
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253  
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243  
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240  
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027  
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024  
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310  
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270



```
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "UCA Global G2 Root"

# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 11 00:00:00 2016

# Not Valid After : Mon Dec 31 00:00:00 2040

# Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "UCA Global G2 Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

```
# Certificate "UCA Extended Validation Root"
#
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 13 00:00:00 2015
# Not Valid After : Fri Dec 31 00:00:00 2038
# Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061
\063\060\060\060\060\060\132\027\015\063\070\061\062\063\061
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125
```

\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144  
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172  
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040  
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273  
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174  
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322  
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037  
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367  
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051  
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171  
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331  
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144  
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163  
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241  
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342  
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246  
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350  
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143  
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210  
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314  
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363  
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007  
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160  
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177  
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232  
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111  
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106  
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120  
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020  
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054  
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361  
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202  
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003  
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176  
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215  
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054  
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256  
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021  
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111  
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332  
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220

\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224  
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144  
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071  
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374  
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123  
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351  
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027  
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342  
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054  
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255  
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350  
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243  
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341  
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340  
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216  
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127  
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013  
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202  
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120  
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345  
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261  
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166  
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162  
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314  
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255  
\177\275\145\040\262\311\301\053\166\030\166\237\126\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "UCA Extended Validation Root"

# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

# Not Valid Before: Fri Mar 13 00:00:00 2015

# Not Valid After : Fri Dec 31 00:00:00 2038

# Fingerprint (SHA-256):

D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24

# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "UCA Extended Validation Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377

\335\360\327\072

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certigna Root CA"
#
# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Not Valid Before: Tue Oct 01 08:32:27 2013
# Not Valid After : Sat Oct 01 08:32:27 2033
# Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061

```

\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157  
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060  
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063  
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164  
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304  
\343\246\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000  
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022  
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164  
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060  
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066  
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151  
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061  
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063  
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060  
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003  
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034  
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070  
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027  
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040  
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352  
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357  
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016  
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333  
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134  
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114  
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050  
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055  
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356  
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302  
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335  
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146  
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017  
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315  
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041  
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032  
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055  
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337  
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367

\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333  
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063  
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304  
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026  
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223  
\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232  
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175  
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144  
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253  
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105  
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271  
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304  
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060  
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001  
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326  
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026  
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037  
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060  
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053  
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057  
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146  
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003  
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150  
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147  
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157  
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053  
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171  
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156  
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224  
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325  
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313  
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241  
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323  
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106  
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034  
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067  
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372  
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171  
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145  
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001  
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341  
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172  
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142  
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216

```
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certigna Root CA"
```

```
# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
```

```
# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
```

```
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
```

```
# Not Valid Before: Tue Oct 01 08:32:27 2013
```

```
# Not Valid After : Sat Oct 01 08:32:27 2033
```

```
# Fingerprint (SHA-256):
```

```
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
```

```
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certigna Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
```



\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164  
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304  
\343\246\341

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign Root CA - G1"

#

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - G1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061  
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003  
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013  
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043  
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124  
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151  
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034  
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032  
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157  
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146  
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063  
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274  
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232  
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116  
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160  
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365  
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052  
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262  
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035  
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114  
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057  
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170  
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355  
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343  
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024  
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373  
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360  
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161  
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141  
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027

```
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "emSign Root CA - G1"
```

```
# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
```

```
# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After : Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (SHA-256):
```

```
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
```

```
# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign Root CA - G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign ECC Root CA - G3"
#
# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074  
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110  
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006  
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125  
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150  
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144  
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060  
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060  
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111  
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151  
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023  
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154  
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060  
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105  
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363  
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064  
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124  
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316  
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222  
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062  
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201  
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276  
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057  
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201  
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002  
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173  
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303  
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004  
\054\243

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - G3"  
# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN  
# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84  
# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

```

# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign Root CA - C1"
#
# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2
# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107
```

\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070  
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137  
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307  
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316  
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026  
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234  
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064  
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211  
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265  
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241  
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252  
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242  
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154  
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073  
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370  
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360  
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170  
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047  
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350  
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306  
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124  
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056  
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023  
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226  
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000  
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250  
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341  
\361\337\312\276\203\015\102

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - C1"

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE



```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
\313\206\117\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign ECC Root CA - C3"
#
# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003

```

\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003  
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\012\173\161\266\202\126\270\022\174\234\250  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173  
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110  
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125  
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061  
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156  
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103  
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042  
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257  
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351  
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142  
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223  
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370  
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016  
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007  
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057  
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034  
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312  
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034

```
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "emSign ECC Root CA - C3"
```

```
# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
```

```
# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
```

```
# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After : Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (SHA-256):
```

```
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
```

```
# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025
\014\356\110\146
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\012\173\161\266\202\126\270\022\174\234\250
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Hongkong Post Root CA 3"
```

```
#
```

```
# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Not Valid Before: Sat Jun 03 02:29:46 2017
# Not Valid After : Tue Jun 03 02:29:46 2042
# Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
```

\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147  
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103  
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062  
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071  
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002  
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156  
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023  
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003  
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157  
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156  
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040  
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326  
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307  
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116  
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215  
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111  
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210  
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357  
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345  
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125  
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050  
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243  
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230  
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315  
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105  
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230  
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251  
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311  
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355  
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023  
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243  
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133  
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010  
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143  
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376  
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321  
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044  
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012  
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064  
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127  
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243  
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067  
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032  
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060

\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036  
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141  
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213  
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016  
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306  
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364  
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044  
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244  
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340  
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071  
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353  
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103  
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015  
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344  
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210  
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232  
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122  
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347  
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164  
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146  
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163  
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265  
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076  
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237  
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210  
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234  
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306  
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352  
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317  
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244  
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111  
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132  
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033  
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062  
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006  
\232\233\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 3"

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

```

# Not Valid After : Tue Jun 03 02:29:46 2042
# Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - G4"
#
# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58
# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Wed May 27 11:11:16 2015
# Not Valid After : Sun Dec 27 11:41:16 2037
# Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88
# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
```



\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155  
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040  
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156  
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060  
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122  
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\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064  
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066  
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132  
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055  
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031  
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037  
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274  
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304  
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020  
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004  
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043  
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336  
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065  
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014  
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132  
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047  
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323  
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351  
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252  
\004\232\036\270\334\210\156\045\263\154\146\367\074\220\363\127  
\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152  
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\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005  
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\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374  
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332  
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362  
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045  
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332  
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067  
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143  
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
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\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052  
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\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045  
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363  
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322  
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364  
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211  
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253  
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377  
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344  
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177  
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056  
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234  
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210  
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\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360  
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307  
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136  
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176  
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330  
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002  
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244  
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166  
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062  
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245  
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072  
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101  
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244  
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273  
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061  
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230  
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332  
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# Trust for "Entrust Root Certification Authority - G4"

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Wed May 27 11:11:16 2015

# Not Valid After : Sun Dec 27 11:41:16 2037

# Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065  
\051\272\226\001

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125  
\145\255\130

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```
#
# Certificate "Microsoft ECC Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 23:06:45 2019
# Not Valid After : Fri Jul 18 23:16:04 2042
# Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
# Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003
```

\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105  
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060  
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066  
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060  
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162  
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162  
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121  
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121  
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171  
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231  
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033  
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170  
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052  
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371  
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325  
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066  
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026  
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001  
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153  
\124\026\040\377\053\265\347\114\014\115\246\117\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft ECC Root Certificate Authority 2017"

# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

# Not Valid Before: Wed Dec 18 23:06:45 2019

# Not Valid After : Fri Jul 18 23:16:04 2042

# Fingerprint (SHA-256):

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

# Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsoft RSA Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 22:51:22 2019
# Not Valid After : Fri Jul 18 23:00:23 2042
# Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163

```

\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177  
\105\263

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036  
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060  
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146  
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060  
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146  
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062  
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063  
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115  
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141  
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115  
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165  
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276  
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231  
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147  
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234  
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364  
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113  
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351  
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265

\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256  
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262  
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146  
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170  
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202  
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311  
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376  
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211  
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034  
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205  
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242  
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206  
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023  
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321  
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272  
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042  
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254  
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012  
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256  
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036  
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007  
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362  
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124  
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220  
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001  
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331  
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135  
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102  
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115  
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071  
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202  
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204  
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225  
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272  
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063  
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075  
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341  
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211  
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126  
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166  
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155  
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115  
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367



```
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Microsoft RSA Root Certificate Authority 2017"
```

```
# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
```

```
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Not Valid Before: Wed Dec 18 22:51:22 2019
```

```
# Not Valid After : Fri Jul 18 23:00:23 2042
```

```
# Fingerprint (SHA-256):
```

```
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
```

```
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
```

\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177  
\105\263

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "e-Szigno Root CA 2017"

#

# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Aug 22 12:07:06 2017

# Not Valid After : Fri Aug 22 12:07:06 2042

# Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "e-Szigno Root CA 2017"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061  
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145  
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143  
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003  
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064  
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055  
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062  
\060\061\067

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061  
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145  
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143  
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003  
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064  
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055  
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062

\060\061\067

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\001\124\110\357\041\375\227\131\015\365\004\012

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001  
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052  
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125  
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014  
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125  
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144  
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110  
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003  
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157  
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067  
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060  
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011  
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125  
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024  
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040  
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126  
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060  
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157  
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060  
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316  
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157  
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204  
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275  
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207  
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170  
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003  
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301  
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006  
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041  
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150  
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154  
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374  
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131  
\371\347\334\061

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "e-Szigno Root CA 2017"
# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Aug 22 12:07:06 2017
# Not Valid After : Fri Aug 22 12:07:06 2042
# Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN Root CA G2"
#
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Not Valid Before: Mon Feb 06 09:27:35 2017
# Not Valid After : Thu Feb 06 09:27:35 2042
# Fingerprint (SHA-256):

```

65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05

# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "certSIGN Root CA G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111  
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023  
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101  
\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111  
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023  
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101  
\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\021\000\064\266\116\306\066\055\066

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021  
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125  
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023  
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032  
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040  
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067  
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060  
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011  
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125  
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061  
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111  
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305  
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026  
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257  
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060  
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030  
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122  
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331

\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347  
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357  
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151  
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301  
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143  
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254  
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127  
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315  
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226  
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121  
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012  
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117  
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310  
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337  
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205  
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146  
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201  
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361  
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067  
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117  
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062  
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132  
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240  
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202  
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270  
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003  
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011  
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347  
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352  
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344  
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036  
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002  
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113  
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144  
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045  
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365  
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041  
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364  
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013  
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206  
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234  
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315  
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045  
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344

```
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027
\101\020\135\047\163\140\205\127\111\042\007
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "certSIGN Root CA G2"
```

```
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
```

```
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
```

```
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
```

```
# Not Valid Before: Mon Feb 06 09:27:35 2017
```

```
# Not Valid After : Thu Feb 06 09:27:35 2042
```

```
# Fingerprint (SHA-256):
```

```
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
```

```
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "certSIGN Root CA G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global Certification Authority"
#
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157

```



\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\005\367\016\206\332\111\363\106\065\056\272\262

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005  
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003  
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060  
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061  
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167  
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165  
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061  
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071  
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010  
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004  
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003  
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110  
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060  
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166  
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315  
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076  
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347  
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030  
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321  
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156  
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334  
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200  
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374  
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363  
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234  
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226  
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064  
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307  
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117  
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033  
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051

\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145  
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024  
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116  
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360  
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014  
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246  
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164  
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343  
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330  
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234  
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254  
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006  
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147  
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370  
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066  
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332  
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163  
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226  
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075  
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344  
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336  
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053  
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365  
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020  
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341  
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124  
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101  
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040  
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121  
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304  
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271  
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217  
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323  
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321  
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072  
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036  
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363  
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354  
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141  
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162  
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166  
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174  
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200  
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242

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\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312
\311\340\266\234\351\316\161\161\336\154\077\026\244\171
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Trustwave Global Certification Authority"
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

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CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Trustwave Global ECC P256 Certification Authority"

#

# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d

# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:35:10 2017

# Not Valid After : Sat Aug 23 19:35:10 2042

# Fingerprint (SHA-256):

94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004  
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015  
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052  
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062  
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206  
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343  
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122  
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015  
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344  
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000  
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220  
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060  
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104  
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266  
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041  
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145  
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314  
\234\341\164\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "Trustwave Global ECC P256 Certification Authority"
# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:35:10 2017
# Not Valid After : Sat Aug 23 19:35:10 2042
# Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global ECC P384 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

```

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# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:36:43 2017
# Not Valid After : Sat Aug 23 19:36:43 2042
# Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
```

\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062  
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005  
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203  
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011  
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224  
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214  
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105  
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003  
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006  
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275  
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010  
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067  
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120  
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302  
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002  
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376  
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053  
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156  
\113

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P384 Certification Authority"  
# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US  
# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b  
# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,



```

Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:36:43 2017
# Not Valid After : Sat Aug 23 19:36:43 2042
# Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "NAVER Global Root Certification Authority"
#
# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d
# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
# Not Valid Before: Fri Aug 18 08:58:42 2017
# Not Valid After : Tue Aug 18 23:59:59 2037
# Fingerprint (SHA-256):
88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

```

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104  
\161\370\326\120\115\015

END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001  
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326  
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113  
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105  
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106  
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125  
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027  
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015  
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061  
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044  
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123  
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103  
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116  
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164

\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100  
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326  
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173  
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207  
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372  
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313  
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104  
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001  
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367  
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263  
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161  
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105  
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017  
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270  
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014  
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052  
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065  
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367  
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337  
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217  
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101  
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206  
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224  
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361  
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250  
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072  
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031  
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332  
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112  
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026  
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212  
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002  
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102  
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210  
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140  
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322  
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015  
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226  
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073  
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143  
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023  
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003

\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246  
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025  
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332  
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213  
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341  
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034  
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036  
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042  
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154  
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373  
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177  
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370  
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174  
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343  
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151  
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321  
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252  
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167  
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027  
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231  
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366  
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216  
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216  
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071  
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245  
\365\165\336\211\367\162

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NAVER Global Root Certification Authority"

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300

\036\170\135\321

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
END
CKA_ISSUER MULTILINE_OCTAL
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
#
# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Not Valid Before: Thu Dec 20 09:37:33 2018
# Not Valid After : Sun Dec 20 09:37:33 2043
# Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106

```

\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122  
\105\123\040\123\105\107\125\122\117\123  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122  
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162  
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124  
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052  
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122  
\105\123\040\123\105\107\125\122\117\123  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056  
\235\225  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142  
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060  
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003  
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060  
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060  
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062  
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003  
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122  
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105  
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060  
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071  
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106  
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013  
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141  
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064  
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122  
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122  
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066  
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307  
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307  
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054  
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257  
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012  
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003

```
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162
\277\347
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
```

```
# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
```

```
# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
```

```
# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
```

```
# Not Valid Before: Thu Dec 20 09:37:33 2018
```

```
# Not Valid After : Sun Dec 20 09:37:33 2043
```

```
# Fingerprint (SHA-256):
```

```
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
```

```
# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Secure Mail Root R45"
#
# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END

```



CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166  
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122  
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060  
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151  
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004  
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145  
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122  
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060  
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060  
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046  
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147  
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157  
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340  
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133  
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333  
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073  
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132  
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225  
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372  
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363  
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047  
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235  
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230  
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367  
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270  
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335  
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206  
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362  
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122  
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366  
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335  
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012  
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120  
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306  
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151  
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316  
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153  
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237  
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017  
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174  
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216  
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077

\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201  
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205  
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050  
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266  
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146  
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276  
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300  
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254  
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043  
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265  
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343  
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336  
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124  
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201  
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017  
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176  
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141  
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007  
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320  
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172  
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237  
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246  
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262  
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031  
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072  
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256  
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252  
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157  
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136  
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201  
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016  
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172  
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241  
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102  
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362  
\263\301\366\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root R45"

# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

```

# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Secure Mail Root E45"
#
# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\060\132\060
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157
```

```
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Secure Mail Root E45"
```

```
# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
```

```
# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Wed Mar 18 00:00:00 2020
```

```
# Not Valid After : Sat Mar 18 00:00:00 2045
```

```
# Fingerprint (SHA-256):
```

```
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
```

```
# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root R46"
#
# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147

```

\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063  
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062  
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003  
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012  
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055  
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211  
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211  
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023  
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143  
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006  
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154  
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027  
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235  
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332  
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063  
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050  
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021  
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130  
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204  
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075  
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173  
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205  
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370  
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043  
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004  
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155  
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073  
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215  
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106  
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346  
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354  
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154  
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061  
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232  
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252  
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375  
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002  
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035

\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246  
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170  
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242  
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116  
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140  
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314  
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166  
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142  
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115  
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241  
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044  
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076  
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351  
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105  
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265  
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156  
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355  
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366  
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263  
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244  
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102  
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323  
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371  
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127  
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150  
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317  
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224  
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242  
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072  
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014  
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110  
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067  
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256  
\045\131\314\177\065\137\010\367\100\105\061\170\052\172

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root R46"  
# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE  
# Serial Number: 11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1  
# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE  
# Not Valid Before: Wed Mar 20 00:00:00 2019  
# Not Valid After : Tue Mar 20 00:00:00 2046  
# Fingerprint (SHA-256):



```

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
\167\303\242\220
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root E46"
#
# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204  
\035\230\350\103

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021  
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350  
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061  
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027  
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147  
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003  
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157  
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060  
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060  
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006  
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107  
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061  
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154  
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064  
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014  
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352  
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067  
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006  
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135  
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200  
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220  
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013  
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367

```
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "GlobalSign Root E46"

# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root E46"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "GLOBALTRUST 2020"

```

#
# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
# Not Valid Before: Mon Feb 10 00:00:00 2020
# Not Valid After : Sun Jun 10 00:00:00 2040
# Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122
\125\123\124\040\062\060\062\060\060\060\060\036\027\015\062\060\060\062
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125

```

\123\124\040\062\060\062\060\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366  
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133  
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275  
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370  
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131  
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174  
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344  
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367  
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011  
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034  
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360  
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127  
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143  
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176  
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116  
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102  
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211  
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066  
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343  
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007  
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051  
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130  
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364  
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134  
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374  
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036  
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274  
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101  
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060  
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224  
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111  
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266  
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037  
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234  
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056  
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150  
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300  
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244  
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325  
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102  
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052  
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056

\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135  
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276  
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305  
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137  
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323  
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345  
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342  
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003  
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147  
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373  
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022  
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357  
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201  
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245  
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015  
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202  
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303  
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021  
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047  
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142  
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367  
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210  
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045  
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315  
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362  
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365  
\155\015\277\173\327\222

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GLOBALTRUST 2020"

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

# Not Valid After : Sun Jun 10 00:00:00 2040

# Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GLOBALTRUST 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046

```

\117\123\161\242
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ANF Secure Server Root CA"
#
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Not Valid Before: Wed Sep 04 10:00:38 2019
# Not Valid After : Tue Aug 30 10:00:38 2039
# Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040

```

\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066  
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101  
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060  
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122  
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116  
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040  
\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\015\323\343\274\154\371\153\261

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015  
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125  
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003  
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144  
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143  
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116  
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125  
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123  
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027  
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015  
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204  
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070  
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105  
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003  
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172  
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123  
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157  
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243  
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004  
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034  
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152  
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330  
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227  
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107



\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274  
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227  
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127  
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034  
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043  
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213  
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012  
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173  
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221  
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317  
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251  
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063  
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246  
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364  
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277  
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370  
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266  
\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147  
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120  
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066  
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367  
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146  
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103  
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101  
\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062  
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037  
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143  
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060  
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243  
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152  
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360  
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213  
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133  
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223  
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243  
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065  
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244  
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312  
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352  
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066  
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364  
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114  
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261  
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352

```
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211
\240\215\254
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ANF Secure Server Root CA"
```

```
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
```

```
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
```

```
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
```

```
# Not Valid Before: Wed Sep 04 10:00:38 2019
```

```
# Not Valid After : Tue Aug 30 10:00:38 2039
```

```
# Fingerprint (SHA-256):
```

```
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
```

```
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ANF Secure Server Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
```

```
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\015\323\343\274\154\371\153\261
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum EC-384 CA"

#

# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum EC-384 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
```

\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006  
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055  
\063\070\064\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272  
\163\364

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170  
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060  
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060  
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003  
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141  
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060  
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023  
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103  
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065  
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064  
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143  
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123  
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145  
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027  
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103  
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304  
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072  
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140  
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346  
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210  
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347  
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215  
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274  
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003  
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311  
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051  
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272  
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347

```
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Certum EC-384 CA"

# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum EC-384 CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "Certum Trusted Root CA"
#
# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Fri Mar 16 12:10:13 2018
# Not Valid After : Mon Mar 16 12:10:13 2043
# Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104

```

\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056  
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165  
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125  
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164  
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070  
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060  
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011  
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125  
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040  
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045  
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026  
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067  
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231  
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176  
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301  
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352  
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317  
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024  
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052  
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147  
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067  
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105  
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357  
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031  
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167  
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152  
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126  
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232  
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327  
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377  
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242  
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214  
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147  
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205  
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077  
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007  
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017  
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041  
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066  
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120  
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201  
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200

\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072  
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165  
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003  
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265  
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271  
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170  
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023  
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206  
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350  
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252  
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027  
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121  
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106  
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204  
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020  
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037  
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372  
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137  
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013  
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372  
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252  
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044  
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303  
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303  
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352  
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136  
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314  
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103  
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153  
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017  
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152  
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227  
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137  
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027  
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305  
\303\270\070\333

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Root CA"

# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed



```

# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Fri Mar 16 12:10:13 2018
# Not Valid After : Mon Mar 16 12:10:13 2043
# Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TunTrust Root CA"
#
# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
# Serial Number: 13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13
# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
# Not Valid Before: Fri Apr 26 08:57:56 2019
# Not Valid After : Tue Apr 26 08:57:56 2044
# Fingerprint (SHA-256):
2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41
# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TunTrust Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011
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\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123  
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131  
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037  
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207  
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135  
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156  
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220  
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005  
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376  
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307  
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031  
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335  
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320  
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205  
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331  
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247  
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324  
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150  
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175  
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066  
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375  
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271  
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033  
\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275  
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246  
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240  
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315  
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041  
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001  
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041  
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160  
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226  
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143  
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233  
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104  
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006  
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264  
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263  
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227  
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135  
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056  
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113  
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175  
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370

\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147  
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042  
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007  
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373  
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107  
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117  
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011  
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327  
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347  
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110  
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325  
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271  
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026  
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317  
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333  
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060  
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367  
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020  
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371  
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146  
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107  
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156  
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015  
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343  
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033  
\000\361\025\255\203\053\232

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TunTrust Root CA"

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number: 13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040

\106\064\234\273

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA TLS RSA Root CA 2021"
#
# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:55:38 2021
# Not Valid After : Mon Feb 13 10:55:37 2045
# Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004  
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123  
\101\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211  
\070\176

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071  
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014  
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064  
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110  
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157  
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145  
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030  
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236  
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004  
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153  
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016  
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257  
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071  
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317  
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014  
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145  
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057  
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360

\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003  
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256  
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333  
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050  
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317  
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030  
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341  
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000  
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201  
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370  
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113  
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052  
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370  
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224  
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353  
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140  
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374  
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220  
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125  
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045  
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045  
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024  
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071  
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310  
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367  
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364  
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102  
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332  
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206  
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360  
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217  
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050  
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360  
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317  
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027  
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166  
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255  
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230  
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311  
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064  
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311  
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353  
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123

```
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HARICA TLS RSA Root CA 2021"
```

```
# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
```

```
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Not Valid Before: Fri Feb 19 10:55:38 2021
```

```
# Not Valid After : Mon Feb 13 10:55:37 2045
```

```
# Fingerprint (SHA-256):
```

```
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
```

```
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
```



```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA TLS ECC Root CA 2021"
#
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:01:10 2021
# Not Valid After : Mon Feb 13 11:01:09 2045
# Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147

```

\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060  
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101  
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157  
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060  
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062  
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004  
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144  
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143  
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103  
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111  
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040  
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070  
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073  
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113  
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064  
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130  
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020  
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311  
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225  
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003  
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360  
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160  
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100  
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201  
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015  
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111  
\105\346\354\267\023\341\072\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS ECC Root CA 2021"  
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR  
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce  
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR  
# Not Valid Before: Fri Feb 19 11:01:10 2021  
# Not Valid After : Mon Feb 13 11:01:09 2045

```

# Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client RSA Root CA 2021"
#
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:58:46 2021
# Not Valid After : Mon Feb 13 10:58:45 2045
# Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
```

\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253  
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207  
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031  
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217  
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062  
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057  
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123  
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016  
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350  
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125  
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062  
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071  
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070  
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103  
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342  
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254  
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220  
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220  
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140  
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147  
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352  
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373  
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270  
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021  
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240  
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066  
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371  
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217  
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132  
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356  
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310  
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112  
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104  
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107  
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105  
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313  
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247  
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203  
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352  
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336  
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347  
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247  
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241

\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252  
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132  
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253  
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144  
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324  
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261  
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270  
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316  
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320  
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052  
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037  
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327  
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044  
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350  
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247  
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160  
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154  
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003  
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172  
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371  
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106  
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014  
\151\317\054\253\073\204\140\063\031\122\375\151\024\063

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA Client RSA Root CA 2021"

# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e

# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:58:46 2021

# Not Valid After : Mon Feb 13 10:58:45 2045

# Fingerprint (SHA-256):

1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D

# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client RSA Root CA 2021"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007  
\000\156\336\156

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355

```
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client ECC Root CA 2021"
#
# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:03:34 2021
# Not Valid After : Mon Feb 13 11:03:33 2045
# Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
```

CKA\_ISSUER MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020  
\175\360

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061  
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060  
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101  
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064  
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110  
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103  
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367  
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001  
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046  
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133  
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376  
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317  
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227  
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110  
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106  
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253



```
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HARICA Client ECC Root CA 2021"
```

```
# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
```

```
# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Not Valid Before: Fri Feb 19 11:03:34 2021
```

```
# Not Valid After : Mon Feb 13 11:03:33 2045
```

```
# Fingerprint (SHA-256):
```

```
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
```

```
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"

#

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:1b:70:e9:d2:ff:ae:6c:71

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Tue Sep 23 15:22:07 2014

# Not Valid After : Mon May 05 15:22:07 2036

# Fingerprint (SHA-256):

57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A

# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151  
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141  
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\033\160\351\322\377\256\154\161

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033  
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004  
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060

\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065  
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004  
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034  
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151

\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146  
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266  
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010  
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105  
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323  
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337  
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311  
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201  
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211  
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117  
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256  
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042  
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104  
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361  
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033  
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225  
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054  
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041  
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255  
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246  
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220  
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121  
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025  
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325  
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260  
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102  
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330  
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375  
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343  
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363  
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112  
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160  
\006\137\244\274\372\040\174\125

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

```

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:1b:70:e9:d2:ff:ae:6c:71
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Tue Sep 23 15:22:07 2014
# Not Valid After : Mon May 05 15:22:07 2036
# Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus ECC Root CA"
#
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
```

```
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "vTrus ECC Root CA"
```

```
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
```

```
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Not Valid Before: Tue Jul 31 07:26:44 2018
```

```
# Not Valid After : Fri Jul 31 07:26:44 2043
```

```
# Fingerprint (SHA-256):
```

```
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
```

```
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "vTrus ECC Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "vTrus Root CA"

#

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

# Not Valid After : Fri Jul 31 07:24:05 2043

# Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103  
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060  
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157  
\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103  
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060  
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157  
\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065  
\375\157\274\005\215\105

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103  
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274  
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103  
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165  
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061



\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040  
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063  
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061  
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125  
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023  
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054  
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166  
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174  
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113  
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034  
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213  
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263  
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024  
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237  
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271  
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276  
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136  
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147  
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175  
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123  
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152  
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107  
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302  
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176  
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355  
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220  
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166  
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246  
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032  
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147  
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115  
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011  
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232  
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220  
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370  
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132  
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326  
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252  
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301  
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306  
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255

\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346  
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354  
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235  
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262  
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111  
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143  
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372  
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020  
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314  
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344  
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344  
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257  
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052  
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064  
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322  
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050  
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312  
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353  
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353  
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275  
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375  
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337  
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241  
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101  
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146  
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065  
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117  
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112  
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305  
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247  
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212  
\334\346\164\174\140\206\157\207\227\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus Root CA"

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

# Not Valid After : Fri Jul 31 07:24:05 2043

# Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ISRG Root X2"
#
# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Not Valid Before: Fri Sep 04 00:00:00 2020
# Not Valid After : Mon Sep 17 16:00:00 2040
# Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003

```

```
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213
```

```
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ISRG Root X2"
```

```
# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
```

```
# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
```

```
# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
```

```
# Not Valid Before: Fri Sep 04 00:00:00 2020
```

```
# Not Valid After : Mon Sep 17 16:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
```

```
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ISRG Root X2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "HiPKI Root CA - G1"
```

```

#
# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Fri Feb 22 09:46:04 2019
# Not Valid After : Thu Dec 31 15:59:59 2037
# Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043

```

\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167  
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114  
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151  
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060  
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036  
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041  
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057  
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167  
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354  
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272  
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141  
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361  
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363  
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037  
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004  
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031  
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162  
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227  
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212  
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011  
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305  
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143  
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255  
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132  
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353  
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232  
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301  
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331  
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371  
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303  
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014  
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273  
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103  
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072  
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111  
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161  
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121  
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250  
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342  
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177  
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030

\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234  
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171  
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027  
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332  
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112  
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066  
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334  
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041  
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320  
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340  
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126  
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204  
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150  
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273  
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315  
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305  
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311  
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164  
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053  
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167  
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340  
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076  
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312  
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200  
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024  
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000  
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253  
\233\141\374\022\121\065\344\045\375\257\252\152\206\071

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HiPKI Root CA - G1"

# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Fri Feb 22 09:46:04 2019

# Not Valid After : Thu Dec 31 15:59:59 2037

# Fingerprint (SHA-256):

F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC

# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HiPKI Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL



\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226  
\343\345\322\140

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110  
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152  
\136\140

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GlobalSign ECC Root CA - R4"

#

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

# Fingerprint (SHA-256):

B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2

# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign ECC Root CA - R4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157  
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164  
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004  
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060  
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151  
\147\156

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157  
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164  
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004  
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060  
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151  
\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002  
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010  
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003  
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040  
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062  
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060  
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042  
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157  
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003  
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023  
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075  
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237  
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261  
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377  
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161  
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177  
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052  
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117  
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073  
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040  
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256  
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "GlobalSign ECC Root CA - R4"
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R1"
#
# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043
```

\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360  
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007  
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330  
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345  
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226  
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117  
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207  
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063  
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312  
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374  
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261  
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216  
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244  
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237  
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372  
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166  
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003  
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276  
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051  
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047  
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260  
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315  
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125  
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201  
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146  
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333  
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042  
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146  
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036  
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153  
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016  
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262  
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076  
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213  
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070  
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337  
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256  
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011  
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017  
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355  
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037  
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131  
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137

```
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

# Trust for "GTS Root R1"

# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R2"
#
# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003

```

\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336  
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065  
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155  
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254  
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237  
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230  
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211  
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316  
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056  
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153  
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255  
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344  
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343  
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011  
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240  
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150  
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116  
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325  
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121  
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334  
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350  
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073  
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351  
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126  
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131  
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252  
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232  
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312  
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336  
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252  
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031  
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377  
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246



\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307  
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346  
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173  
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074  
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250  
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356  
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202  
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201  
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316  
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256  
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311  
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153  
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040  
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172  
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351  
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257  
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107  
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070  
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372  
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061  
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145  
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121  
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016  
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117  
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240  
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037  
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025  
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225  
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130  
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053  
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145  
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021  
\354\236\355\005\035\344\310\326\035\206\313

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R2"

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R3"
#
# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040

```

\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\063  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\063  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130  
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121  
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206  
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156  
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011  
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366  
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022  
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173  
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230  
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273  
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146  
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316  
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246  
\225\327\124\131\267\347\021\054\211\324\271\356\027

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "GTS Root R3"
# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\35\34\161\200\05\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R4"
#
# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016

```

```
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261
```

```
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "GTS Root R4"

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Telia Root CA v2"
#
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
# Not Valid Before: Thu Nov 29 11:55:54 2018
# Not Valid After : Sun Nov 29 11:55:54 2043
# Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030

```

\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156  
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004  
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101  
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065  
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065  
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002  
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154  
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031  
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122  
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342  
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155  
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152  
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312  
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241  
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175  
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230  
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031  
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275  
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244  
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325  
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203  
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074  
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135  
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123  
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204  
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011  
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050  
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154  
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345  
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302  
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134  
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156  
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272  
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203  
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020  
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321  
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012  
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267  
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110  
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154  
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116  
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243  
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024  
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057  
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162  
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206



\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066  
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011  
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062  
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204  
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142  
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333  
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070  
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014  
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346  
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131  
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122  
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240  
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321  
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212  
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335  
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123  
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205  
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226  
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170  
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053  
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020  
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133  
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055  
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244  
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124  
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123  
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306  
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224  
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026  
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146  
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337  
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200  
\254\023\356\120\024\036\230\307

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Telia Root CA v2"  
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI  
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e  
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI  
# Not Valid Before: Thu Nov 29 11:55:54 2018  
# Not Valid After : Sun Nov 29 11:55:54 2043  
# Fingerprint (SHA-256):

```

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

#
# Certificate "D-TRUST BR Root CA 1 2020"
#
# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 09:45:00 2020
# Not Valid After : Sun Feb 11 09:44:59 2035
# Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113  
\115\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174  
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060  
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071  
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232  
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166  
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022  
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313  
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147  
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264  
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377  
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057

\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102  
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023  
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070  
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126  
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363  
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032  
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325  
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST BR Root CA 1 2020"

# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue Feb 11 09:45:00 2020

# Not Valid After : Sun Feb 11 09:44:59 2035

# Fingerprint (SHA-256):

E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44

# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST BR Root CA 1 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315  
\364\011\101\147

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164

```

\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST EV Root CA 1 2020"
#
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 10:00:00 2020
# Not Valid After : Sun Feb 11 09:59:59 2035
# Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137  
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061  
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071  
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227  
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246  
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202  
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063  
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017  
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303  
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067  
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105  
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052  
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331  
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200  
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221  
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002  
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133  
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST EV Root CA 1 2020"

# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0

# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

# Not Valid Before: Tue Feb 11 10:00:00 2020

# Not Valid After : Sun Feb 11 09:59:59 2035

# Fingerprint (SHA-256):

08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB

# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "D-TRUST EV Root CA 1 2020"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235

\075\364\335\007

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061

\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163

\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023

\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164

\040\103\101\040\061\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373

\377\320

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert TLS ECC P384 Root G5"

#

# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3

# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

```
# Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150
```



```
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270
\015\166\103\214\056\123\313\174\337\014\027\226\120
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

# Trust for "DigiCert TLS ECC P384 Root G5"

# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3

# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05

# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert TLS RSA4096 Root G5"
#
# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060

```

\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023  
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123  
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034  
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101  
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364  
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076  
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011  
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110  
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264  
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034  
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345  
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051  
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267  
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210  
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114  
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374  
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247  
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103  
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024  
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351  
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350  
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016  
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364  
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361  
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367  
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376  
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035  
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351  
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212  
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327  
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155  
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371  
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136  
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175  
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037  
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313  
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004

\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257  
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127  
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221  
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160  
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012  
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352  
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307  
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301  
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253  
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305  
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041  
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113  
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020  
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346  
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045  
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244  
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206  
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360  
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157  
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021  
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272  
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276  
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011  
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366  
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160  
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167  
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265  
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205  
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312  
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334  
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212  
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330  
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214  
\332\062\376\303\153\203\077\070\306\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS RSA4096 Root G5"  
# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US  
# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a  
# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US  
# Not Valid Before: Fri Jan 15 00:00:00 2021  
# Not Valid After : Sun Jan 14 23:59:59 2046

```

# Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert SMIME ECC P384 Root G5"
#
# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243  
\326\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005  
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060  
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151  
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103  
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037  
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105  
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147  
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146  
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274  
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315  
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013  
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266  
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146  
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035

```
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert SMIME ECC P384 Root G5"
# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert SMIME RSA4096 Root G5"

#

# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A

# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004  
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107  
\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004  
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107  
\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272  
\034\125

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005  
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023



\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060  
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\132  
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162  
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003  
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105  
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064  
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105  
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227  
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004  
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360  
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341  
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012  
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267  
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261  
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072  
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070  
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066  
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352  
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060  
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223  
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151  
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367  
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000  
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356  
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152  
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027  
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135  
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206  
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150  
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236  
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261  
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040  
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056  
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214  
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342  
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050  
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207  
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134  
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206

\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247  
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361  
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151  
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224  
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163  
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242  
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121  
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013  
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111  
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351  
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205  
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046  
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137  
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371  
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246  
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307  
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350  
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022  
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072  
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363  
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152  
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333  
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105  
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132  
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030  
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100  
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315  
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216  
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017  
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106  
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076  
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331  
\014\122\100\037\335\116\017\147\046\026\322\255\027\034

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert SMIME RSA4096 Root G5"  
# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US  
# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55  
# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US  
# Not Valid Before: Fri Jan 15 00:00:00 2021  
# Not Valid After : Sun Jan 14 23:59:59 2046  
# Fingerprint (SHA-256):  
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A  
# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106
\206\320\127\010
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certainly Root R1"
#
# Issuer: CN=Certainly Root R1,O=Certainly,C=US
# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
# Subject: CN=Certainly Root R1,O=Certainly,C=US
# Not Valid Before: Thu Apr 01 00:00:00 2021
# Not Valid After : Sun Apr 01 00:00:00 2046
# Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

```

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151  
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104  
\071\267\340  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000  
\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022  
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156  
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162  
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036  
\027\015\062\061\060\064\060\061\060\060\060\060\060\132\027  
\015\064\066\060\064\060\061\060\060\060\060\060\132\060\075  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154  
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164  
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066  
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152  
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201  
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023  
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052  
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056  
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235  
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241  
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154  
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364  
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015  
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364  
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371  
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212  
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246  
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171  
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064  
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211  
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220

\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171  
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244  
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111  
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260  
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265  
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100  
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264  
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027  
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207  
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047  
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204  
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021  
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233  
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256  
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022  
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053  
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335  
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131  
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335  
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266  
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025  
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042  
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351  
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114  
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335  
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132  
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042  
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142  
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200  
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245  
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173  
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012  
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015  
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143  
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152  
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346  
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047  
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115  
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301  
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362  
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044  
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112  
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147

```
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272
\071\137\212\231\251\101\131\007\260\054\257
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Certainly Root R1"

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certainly Root R1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272
\314\206\102\257
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "Certainly Root E1"

#

```
# Issuer: CN=Certainly Root E1,O=Certainly,C=US
# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
# Subject: CN=Certainly Root E1,O=Certainly,C=US
# Not Valid Before: Thu Apr 01 00:00:00 2021
# Not Valid After : Sun Apr 01 00:00:00 2046
# Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060
\064\060\061\060\060\060\060\060\060\132\060\075\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
```

```
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Certainly Root E1"

# Issuer: CN=Certainly Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certainly Root E1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
```

END



```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "E-Tugra Global Root CA RSA v3"
#
# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:07:17 2020
# Not Valid After : Sun Mar 12 09:07:17 2045
# Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101

```

\040\166\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025

\006\064\373\171\020\064

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015

\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373

\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013

\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002

\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153

\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055

\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035

\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141

\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060

\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040

\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122

\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060

\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071

\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004

\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006

\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023

\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123

\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165

\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162

\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147

\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103

\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011

\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000

\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173

\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215

\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056

\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061

\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135

\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075

\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174

\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047

\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364

\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277

\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061

\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076

\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113

\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145

\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061

\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306

\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006

\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323

\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170  
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276  
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126  
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116  
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151  
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065  
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012  
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133  
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207  
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007  
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336  
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005  
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250  
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124  
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143  
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123  
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262  
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041  
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030  
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232  
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220  
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161  
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057  
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174  
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006  
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165  
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320  
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167  
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357  
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344  
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242  
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203  
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375  
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220  
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175  
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320  
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015  
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303  
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000  
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076  
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170  
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305  
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257  
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261

```
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040
\317\073\357\201\161\203\131
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "E-Tugra Global Root CA RSA v3"

# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:07:17 2020

# Not Valid After : Sun Mar 12 09:07:17 2045

# Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "E-Tugra Global Root CA ECC v3"
#
# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:46:58 2020
# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206  
\346\324\227\210\042\301

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046  
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227  
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060  
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141  
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147  
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006  
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162  
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003  
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157  
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040  
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066  
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065  
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105  
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051  
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020  
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303  
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107  
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012  
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342  
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377  
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245  
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202  
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220  
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151  
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313  
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232  
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372  
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145  
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307  
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161  
\276\150\344\043\244\331\255\241\067

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "E-Tugra Global Root CA ECC v3"
# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:46:58 2020
# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"

```

```
#
# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
# Not Valid Before: Thu Jan 21 10:50:34 2021
# Not Valid After : Mon Jan 15 10:50:34 2046
# Fingerprint (SHA-256):
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040
```



\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061  
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061  
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004  
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041  
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164  
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141  
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111  
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122  
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323  
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170  
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134  
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250  
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350  
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366  
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032  
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056  
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045  
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147  
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010  
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140  
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042  
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365  
\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320  
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205  
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061  
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115  
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004  
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012  
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204  
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245  
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047  
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307  
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076  
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160  
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267  
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132  
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121  
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363  
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316  
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030  
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001  
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026  
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024  
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004  
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332

\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001  
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370  
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341  
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360  
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322  
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363  
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065  
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111  
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004  
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177  
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240  
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124  
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150  
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171  
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205  
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153  
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324  
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111  
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127  
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072  
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233  
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156  
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047  
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244  
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004  
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025  
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001  
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054  
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216  
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256  
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040  
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066  
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236  
\176\113\144\244\125\135\053\027\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

```

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
# Not Valid Before: Thu Jan 21 11:07:50 2021
# Not Valid After : Mon Jan 15 11:07:50 2046
# Fingerprint (SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055  
\344\353\372\235\266\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066  
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372  
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060  
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052  
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154  
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157  
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003  
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116  
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104  
\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061\061  
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061  
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104  
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151  
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154  
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124  
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117  
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215  
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111  
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311  
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206  
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023

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\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314
\065\352\216\044\233\345\010\131\307\004\214\163\170\376
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"
```

```
# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
```

```
# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Not Valid Before: Thu Jan 21 11:07:50 2021
```

```
# Not Valid After : Mon Jan 15 11:07:50 2046
```

```
# Fingerprint (SHA-256):
```

```
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
```

```
# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000
\057\322\112\212
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
```

```

\104\123\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication RootCA3"
#
# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:e1:7c:37:40:fd:1b:fe:67
# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 06:17:16 2016
# Not Valid After : Mon Jan 18 06:17:16 2038
# Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000  
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060  
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122  
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066  
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060  
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004  
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034  
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164  
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045  
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040  
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157  
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251  
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065  
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053  
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371  
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164  
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300  
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064  
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120  
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006  
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301  
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075  
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173  
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132  
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041  
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273  
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124  
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374  
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270  
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021  
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340  
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036  
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017  
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355  
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055  
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270  
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055  
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314  
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137  
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115

\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320  
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122  
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021  
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162  
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202  
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322  
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151  
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132  
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300  
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311  
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115  
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235  
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255  
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065  
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010  
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072  
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112  
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076  
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134  
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010  
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036  
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047  
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156  
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337  
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074  
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062  
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025  
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273  
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123  
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303  
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166  
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020  
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377  
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076  
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045  
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235  
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063  
\235\115\146

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA3"



```

# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:e1:7c:37:40:fd:1b:fe:67
# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 06:17:16 2016
# Not Valid After : Mon Jan 18 06:17:16 2038
# Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication ECC RootCA1"
#
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 05:15:28 2016
# Not Valid After : Mon Jan 18 05:15:28 2038
# Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216
```

```
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142
\033\022\372\026\115\045\113\143\275\036\067\331
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Security Communication ECC RootCA1"
```

```
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
```

```
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Not Valid Before: Thu Jun 16 05:15:28 2016
```

```
# Not Valid After : Mon Jan 18 05:15:28 2038
```

```
# Fingerprint (SHA-256):
```

```
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
```

```
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
```

```

\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA1"
#
# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:16:17 2019
# Not Valid After : Mon Dec 12 03:16:17 2044
# Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040

```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125  
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060  
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040  
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110  
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024  
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063  
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061  
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023  
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105  
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124  
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006  
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141  
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331  
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372  
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210  
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031  
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206  
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176  
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271  
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077  
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372  
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021  
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124  
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027  
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145  
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260  
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144  
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352  
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056  
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023  
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312  
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157  
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050  
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277  
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203  
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350  
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116  
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127  
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361  
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347  
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211

\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125  
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376  
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300  
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305  
\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223  
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362  
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270  
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014  
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002  
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142  
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301  
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251  
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156  
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310  
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313  
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074  
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363  
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375  
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015  
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072  
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204  
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250  
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322  
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161  
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310  
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361  
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074  
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163  
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342  
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362  
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075  
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334  
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365  
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366  
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315  
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312  
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362  
\257\376\263\160\054\056\246\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA1"

```

# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:16:17 2019
# Not Valid After : Mon Dec 12 03:16:17 2044
# Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA2"
#
# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:18:21 2019
# Not Valid After : Mon Dec 12 03:18:21 2044
# Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103
```



```
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

# Trust for "BJCA Global Root CA2"

# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb

# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

# Not Valid Before: Thu Dec 19 03:18:21 2019

# Not Valid After : Mon Dec 12 03:18:21 2044

# Fingerprint (SHA-256):

57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82

# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "BJCA Global Root CA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Found in path(s):

```
* /opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt
```

## 1.64 jackson 2.15.0

### 1.64.1 Available under license :

```
# Jackson JSON processor
```

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

```
## Copyright
```

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```
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```

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```
## Credits
```

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# 1.65 micronaut-core-reactive 3.9.4

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Found in path(s):

```
* /opt/cola/permits/1743477339_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/META-INF/native-image/io.micronaut/micronaut-core-reactive/native-image.properties
```

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```
*/
```

Found in path(s):

```
* /opt/cola/permits/1743477339_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/ReactiveStreamsTypeInfoProvider.java
```

```
* /opt/cola/permits/1743477339_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/publisher/PublishersOptimizations.java
```

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- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/publisher/AsyncSingleResultPublisher.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/subscriber/SingleThreadedBufferingSubscriber.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/publisher/package-info.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/annotation/SingleResult.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/package-info.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/processor/SingleSubscriberProcessor.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/publisher/SingleSubscriberPublisher.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/subscriber/Emitter.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/processor/package-info.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/publisher/Publishers.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/subscriber/Completable.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/subscriber/TypedSubscriber.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/processor/SingleThreadedBufferingProcessor.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/subscriber/CompletionAwareSubscriber.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/subscriber/package-info.java
- \* /opt/cola/permits/1743477339\_1689201660.622659/0/micronaut-core-reactive-3-9-4-sources-jar/io/micronaut/core/async/publisher/CompletableFuturePublisher.java

## 1.66 micronaut-tracing 3.2.7



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```
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/brave/log/package-info.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/brave/AsyncReporterConfiguration.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/brave/sender/HttpClientSender.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/brave/instrument/http/HttpTracingFactory.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/interceptor/TraceInterceptor.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/instrument/util/OpenTracingInvocationInstrumenter.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/jaeger/package-info.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/brave/sender/package-info.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/jaeger/JaegerConfiguration.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/brave/instrument/http/AbstractBraveTracingFilter.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/interceptor/package-info.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/instrument/util/ScopePropagationPublisher.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/instrument/http/package-info.java
* /opt/cola/permits/1743477440_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-
jar/io/micronaut/tracing/annotation/NewSpan.java
```

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/annotation/package-info.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/sender/HttpClientSenderFactory.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/http/OpenTracingClientFilter.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/log/Slf4jScopeDecorator.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/ZipkinServiceInstanceList.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/instrument/http/package-info.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/package-info.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/instrument/http/HttpClientTracingPublisher.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/log/Slf4jCurrentTraceContextFactory.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/BraveTracerFactory.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/util/TracingPublisher.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/annotation/SpanTag.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/package-info.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/reactor/package-info.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/BraveTracerConfiguration.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/util/TracingInvocationInstrumenterFactory.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/http/TraceRequestAttributes.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/DefaultTracer.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/http/HttpHeadersTextMap.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/http/AbstractOpenTracingFilter.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/util/ThreadTracingInvocationInstrumenterFactory.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/instrument/http/BraveTracingClientFilter.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/rxjava/package-info.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/annotation/ContinueSpan.java

\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/instrument/http/BraveTracingServerFilter.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/hystrix/TracingHystrixConcurrentStrategy.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/util/MdcInstrumenter.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/util/package-info.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/package-info.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/BraveTracingInvocationInstrumenter.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/jaeger/JaegerTracerFactory.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/http/OpenTracingServerFilter.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/hystrix/package-info.java  
\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/brave/instrument/http/HttpServerTracingPublisher.java

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\* /opt/cola/permits/1743477440\_1689201642.1122806/0/micronaut-tracing-3-2-7-sources-jar/io/micronaut/tracing/instrument/kotlin/CoroutineTracingDispatcher.kt

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## 1.67 jctools-core 4.0.1

### 1.67.1 Available under license :

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Manifest-Version: 1.0

Bnd-LastModified: 1662622707903

Build-Jdk-Spec: 11

Bundle-Description: Java Concurrency Tools Core Library

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

Bundle-ManifestVersion: 2

Bundle-Name: Java Concurrency Tools Core Library

Bundle-SymbolicName: org.jctools.core

Bundle-Version: 4.0.1

Created-By: Apache Maven Bundle Plugin 5.1.6

Export-Package: org.jctools.maps;version="4.0.1",org.jctools.util;uses:="sun.misc";version="4.0.1",org.jctools.queues;version="4.0.1",org.jctools.queues.atomic;uses:="org.jctools.queues";version="4.0.1",org.jctools.queues.unpadded;uses:="org.jctools.queues";version="4.0.1",org.jctools.counters;version="4.0.1"

Import-Package: sun.misc;resolution:=optional

Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.6))"

Tool: Bnd-6.2.0.202202251641

Found in path(s):

\* /opt/cola/permits/1500645298\_1670406227.9308958/0/jctools-core-4-0-1-jar/META-INF/MANIFEST.MF

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## 1.68 jackson 2.14.2

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## 1.69 micronaut-grpc-annotation 3.6.0

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```
* /opt/cola/permits/1682035057_1684512014.2964008/0/micronaut-grpc-annotation-3-6-0-sources-
jar/io/micronaut/grpc/annotation/GrpcChannel.java
* /opt/cola/permits/1682035057_1684512014.2964008/0/micronaut-grpc-annotation-3-6-0-sources-
jar/io/micronaut/grpc/annotation/GrpcService.java
```

## 1.70 paranamer 2.5.1



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jar/com/thoughtworks/paranamer/BytecodeReadingParanamer.java
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jar/com/thoughtworks/paranamer/NullParanamer.java

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jar/com/thoughtworks/paranamer/AdaptiveParanamer.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/ParameterNamesNotFoundException.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/CachingParanamer.java  
\* /opt/cola/permits/1257772269\_1643010353.74/0/paranamer-2-5-1-sources-  
jar/com/thoughtworks/paranamer/DefaultParanamer.java  
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* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/bind/DateTypeAdapter.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/bind/TreeTypeAdapter.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/UnsafeAllocator.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/ConstructorConstructor.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/LazilyParsedNumber.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
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jar/com/google/gson/internal/JavaVersion.java  
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jar/com/google/gson/internal/PreJava9DateFormatProvider.java  
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jar/com/google/gson/internal/bind/TypeAdapters.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/JsonTreeReader.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/JsonTreeWriter.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/ArrayTypeAdapter.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/TypeAdapter.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/CollectionTypeAdapterFactory.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/JsonReaderInternalAccess.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-

jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/ObjectTypeAdapter.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/TypeAdapterFactory.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/internal/bind/MapTypeAdapterFactory.java  
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\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonStreamParser.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/FieldAttributes.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonParser.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-  
jar/com/google/gson/LongSerializationPolicy.java  
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```
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/ToNumberStrategy.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/ToNumberPolicy.java
```

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* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/stream/MalformedJsonException.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/stream/JsonWriter.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/stream/JsonToken.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/stream/JsonReader.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/stream/JsonScope.java
```

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```
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/internal/Streams.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/JsonSyntaxException.java
```

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* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/annotations/JsonAdapter.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java
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\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/annotations/Until.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonElement.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/internal/Excluder.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/ExclusionStrategy.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonParseException.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/internal/\$Gson\$Preconditions.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonIOException.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonObject.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/InstanceCreator.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/internal/Primitives.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonNull.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/annotations/SerializedName.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonDeserializationContext.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/FieldNamingPolicy.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonPrimitive.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/FieldNamingStrategy.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/Gson.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonSerializer.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonSerializationContext.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/annotations/Since.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonDeserializer.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/reflect/TypeToken.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/internal/ObjectConstructor.java  
\* /opt/cola/permits/1296849109\_1648622539.88/0/gson-2-9-0-sources-

```
jar/com/google/gson/internal/bind/DefaultDateTypeAdapter.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-
jar/com/google/gson/annotations/Expose.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/GsonBuilder.java
* /opt/cola/permits/1296849109_1648622539.88/0/gson-2-9-0-sources-jar/com/google/gson/JsonArray.java
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## 1.72 micronaut-http-client-core 3.9.4

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- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/BlockingHttpClient.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/filter/DefaultHttpClientFilterResolver.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/HttpClientRegistry.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/StreamingHttpClientRegistry.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/FilePart.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/package-info.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/LoadBalancer.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/HttpClientBinderRegistry.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/StringPart.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/TypedClientArgumentRequestBinder.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/BytePart.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/sse/SseClient.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/HttpClientException.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/Part.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/ClientArgumentRequestBinder.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/ClientRequestUriContext.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/HttpClientResponseException.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/AnnotatedClientArgumentRequestBinder.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ServiceHttpClientCondition.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ProxyHttpClientRegistry.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/interceptor/configuration/package-info.java
- \* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/EmptyResponseException.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/filters/package-info.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/sse/SseClientRegistry.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/AbstractFilePart.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/DiscoveryClientRoundRobinLoadBalancer.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/MultipartBody.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/interceptor/package-info.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ServiceHttpClientConfiguration.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/LoadBalancerResolver.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/HttpClientErrorDecoder.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/interceptor/configuration/ClientVersioningConfiguration.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/InputStreamPart.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/filters/ClientServerContextFilter.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/DefaultHttpClientConfiguration.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ServiceHttpClientFactory.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/interceptor/configuration/DefaultClientVersioningConfiguration.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/annotation/Client.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/NoHostException.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/package-info.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/multipart/MultipartDataFactory.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/ContentLengthExceededException.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/HttpClientConfiguration.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/StreamingHttpClient.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/DefaultHttpClientBinderRegistry.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/ReadTimeoutException.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/filter/ClientFilterResolutionContext.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/AbstractRoundRobinLoadBalancer.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/HttpClient.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/FixedLoadBalancer.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/LoadBalancerConverters.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/DefaultLoadBalancerResolver.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ProxyHttpClient.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/interceptor/HttpClientIntroductionAdvice.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/package-info.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/DiscoveryClientLoadBalancerFactory.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/exceptions/package-info.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/annotation/package-info.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/ServiceInstanceListLoadBalancerFactory.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ReactiveClientResultTransformer.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/interceptor/configuration/NamedClientVersioningConfiguration.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/filters/ClientServerRequestTracingPublisher.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/loadbalance/ServiceInstanceListRoundRobinLoadBalancer.java  
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\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ProxyRequestOptions.java

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\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ProxyHttpClientFactory.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/binders/HeaderClientRequestBinder.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/binders/VersionClientRequestBinder.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/ProxyHttpClientFactoryResolver.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/sse/package-info.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/StreamingHttpClientFactory.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/ClientRequestBinder.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/HttpClientFactoryResolver.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/sse/SseClientFactory.java

\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/binders/AttributeClientRequestBinder.java



\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/bind/binders/QueryValueClientArgumentRequestBinder.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/StreamingHttpClientFactoryResolver.java  
\* /opt/cola/permits/1743477431\_1689201631.9507294/0/micronaut-http-client-core-3-9-4-sources-jar/io/micronaut/http/client/HttpClientFactory.java

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\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/endpoint/env/EnvironmentFilterSpecification.java

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\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/endpoint/health/filter/package-info.java  
\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/endpoint/env/package-info.java  
\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/endpoint/EndpointDefaultConfiguration.java  
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\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/endpoint/threads/ThreadInfoMapper.java  
\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/endpoint/processors/WriteEndpointRouteBuilder.java

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\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/health/indicator/AbstractHealthIndicator.java

\* /opt/cola/permits/1743477361\_1689201658.7972705/0/micronaut-management-3-9-4-sources-jar/io/micronaut/management/health/indicator/annotation/Readiness.java

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

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## 1.77 reactive-streams 1.0.4

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# 1.79 zstd-jni 1.5.2-1

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Manifest-Version: 1.0

Automatic-Module-Name: com.github.luben.zstd\_jni

Bnd-LastModified: 1642851452470

Bundle-Description: JNI bindings for Zstd native library that provides fast and high compression lossless algorithm for Java and all JVM languages.

Bundle-License: <https://opensource.org/licenses/BSD-2-Clause>;description=BSD 2-Clause License

Bundle-ManifestVersion: 2

Bundle-Name: zstd-jni

Bundle-NativeCode: darwin/x86\_64/libzstd-jni-1.5.2-1.dylib;osname=MacOS;osname=MacOSX;processor=x86\_64, darwin/aarch64/libzstd-jni-1.5.2-1.dylib;osname=MacOS;osname=MacOSX;processor=aarch64, freebsd/amd64/libzstd-jni-1.5.2-1.so;osname=FreeBSD;processor=amd64, freebsd/i386/libzstd-jni-1.5.2-1.so;osname=FreeBSD;processor=i386, linux/aarch64/libzstd-jni-1.5.2-1.so;osname=Linux;processor=aarch64, linux/amd64/libzstd-jni-1.5.2-1.so;osname=Linux;processor=amd64, linux/arm/libzstd-jni-1.5.2-1.so;osname=Linux;processor=arm, linux/i386/libzstd-jni-1.5.2-1.so;osname=Linux;processor=i386, linux/mips64/libzstd-jni-1.5.2-1.so;osname=Linux;processor=mips64, linux/ppc64/libzstd-jni-1.5.2-1.so;osname=Linux;processor=ppc64, linux/ppc64le/libzstd-jni-1.5.2-1.so;osname=Linux;processor=ppc64le, linux/s390x/libzstd-jni-1.5.2-1.so;osname=Linux;processor=s390x, win/amd64/libzstd-jni-1.5.2-1.dll;osname=Win32;processor=amd64, win/x86/libzstd-jni-1.5.2-1.dll;osname=Win32;processor=x86

Bundle-SymbolicName: com.github.luben.zstd-jni

Bundle-Vendor: com.github.luben

Bundle-Version: 1.5.2.1

Created-By: 11.0.14 (Debian)

Export-Package: com.github.luben.zstd;version="1.5.2.1",com.github.luben.zstd.util;version="1.5.2.1"

Implementation-Title: zstd-jni

Implementation-Vendor: com.github.luben

Implementation-Vendor-Id: com.github.luben

Implementation-Version: 1.5.2-1

Import-Package: org.osgi.framework;resolution:=optional

Private-Package: linux.amd64,linux.i386,linux.aarch64,linux.arm,linux.ppc64,linux.ppc64le,linux.mips64,linux.s390x,darwin.x86\_64,darwin.aarch64,win.amd64,win.x86,freebsd.amd64,freebsd.i386

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=11.0))"

Specification-Title: zstd-jni

Specification-Vendor: com.github.luben

Specification-Version: 1.5.2-1

Tool: Bnd-4.0.0.201805111645

Found in path(s):

\* /opt/cola/permits/1337889408\_1654234488.39181/0/zstd-jni-1-5-2-1-jar/META-INF/MANIFEST.MF

## 1.80 jeromq 0.3.5

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# 1.81 netty-codec-socks 4.1.94.Final

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```
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksSubnegotiationVersion.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/SocksVersion.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5AuthMethod.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthStatus.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksAuthStatus.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5AddressType.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksRequestType.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5CommandType.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksCmdType.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksAddressType.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksAuthScheme.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksProtocolVersion.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
```

jar/io/netty/handler/codec/socks/SocksResponseType.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socks/SocksMessageType.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5CommandStatus.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socks/SocksCmdStatus.java  
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jar/io/netty/handler/codec/socksx/SocksPortUnificationServerHandler.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5AddressDecoder.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5AddressEncoder.java  
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- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v4/Socks4Message.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandRequestDecoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/AbstractSocksMessage.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthRequestDecoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v4/package-info.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/AbstractSocks5Message.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5ServerEncoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5InitialResponseDecoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/package-info.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5InitialRequestDecoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5Message.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v4/AbstractSocks4Message.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5ClientEncoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5CommandResponseDecoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthResponseDecoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v4/Socks4ServerEncoder.java
- \* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v4/Socks4ClientEncoder.java

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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/META-INF/maven/io.netty/netty-codec-socks/pom.xml

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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/Socks5InitialResponse.java

\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/package-info.java

\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socks/SocksInitRequest.java

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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socks/SocksCmdResponse.java

\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v5/DefaultSocks5PasswordAuthRequest.java

\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socksx/v4/DefaultSocks4CommandResponse.java

\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-jar/io/netty/handler/codec/socks/SocksAuthResponseDecoder.java

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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socks/SocksCommonUtils.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socks/UnknownSocksRequest.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socksx/SocksMessage.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
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\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-  
jar/io/netty/handler/codec/socksx/v5/Socks5PasswordAuthRequest.java  
\* /opt/cola/permits/1735715996\_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-

```
jar/io/netty/handler/codec/socks/package-info.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/DefaultSocks5CommandRequest.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v4/Socks4CommandType.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksCmdRequestDecoder.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksMessage.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/Socks5CommandResponse.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v4/DefaultSocks4CommandRequest.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socks/SocksInitResponse.java
* /opt/cola/permits/1735715996_1688166854.02857/0/netty-codec-socks-4-1-94-final-sources-
jar/io/netty/handler/codec/socksx/v5/DefaultSocks5PasswordAuthResponse.java
```

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* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
jar/io/netty/handler/ssl/OpenSslPrivateKey.java
* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
jar/io/netty/handler/ssl/SignatureAlgorithmConverter.java
* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
jar/io/netty/handler/ssl/OpenSslKeyMaterialProvider.java
* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
```

jar/io/netty/handler/ssl/OpenSslX509TrustManagerWrapper.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslCachingX509KeyManagerFactory.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslCachingKeyMaterialProvider.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslSession.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/ExtendedOpenSslSession.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslX509KeyManagerFactory.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslKeyMaterial.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
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jar/io/netty/handler/traffic/ChannelTrafficShapingHandler.java
* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
jar/io/netty/handler/traffic/package-info.java
* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
jar/io/netty/handler/traffic/GlobalTrafficShapingHandler.java
* /opt/cola/permits/1735716183_1688166915.4300108/0/netty-handler-4-1-94-final-sources-
jar/io/netty/handler/traffic/TrafficCounter.java
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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/X509KeyManagerWrapper.java  
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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/address/package-info.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/KeyManagerFactoryWrapper.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslPrivateKeyMethod.java  
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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/SimpleKeyManagerFactory.java

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jar/io/netty/handler/flow/package-info.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/ReferenceCountedOpenSslClientContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/Java8SslUtils.java  
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jar/io/netty/handler/ssl/PemEncoded.java  
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jar/io/netty/handler/ssl/ReferenceCountedOpenSslEngine.java  
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jar/io/netty/handler/ssl/ReferenceCountedOpenSslServerContext.java  
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jar/io/netty/handler/flush/package-info.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/PemValue.java  
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jar/io/netty/handler/ssl/ReferenceCountedOpenSslContext.java  
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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/pcap/EthernetPacket.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/pcap/IPPacket.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/pcap/PcapHeaders.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/pcap/PcapWriter.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/pcap/UDPPacket.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/pcap/TCPpacket.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/pcap/package-info.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/pcap/PcapWriteHandler.java

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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/package-info.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/logging/LogLevel.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/stream/ChunkedNioStream.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/NotSslRecordException.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/timeout/IdleState.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/package-info.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/timeout/package-info.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/timeout/TimeoutException.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/stream/ChunkedFile.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/timeout/WriteTimeoutException.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/stream/ChunkedWriteHandler.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/SslHandler.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-

jar/io/netty/handler/stream/ChunkedStream.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/timeout/ReadTimeoutException.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/stream/ChunkedNioFile.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/stream/ChunkedInput.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/timeout/WriteTimeoutHandler.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/stream/package-info.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/timeout/IdleStateEvent.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/logging/LoggingHandler.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/timeout/ReadTimeoutHandler.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/timeout/IdleStateHandler.java

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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/InsecureTrustManagerFactory.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/IdentityCipherSuiteFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/ThreadLocalInsecureRandom.java  
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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/SslUtils.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ipfilter/package-info.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/JdkNpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslEngine.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/SimpleTrustManagerFactory.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/JdkSslServerContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslServerContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslServerSessionContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslClientContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslNpnApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-



jar/io/netty/handler/ssl/SslContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/Java7SslParametersUtils.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/ApplicationProtocolConfig.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ipfilter/UniqueIpFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/util/LazyX509Certificate.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/JdkSslEngine.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/SslProvider.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/util/OpenJdkSelfSignedCertGenerator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslSessionContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/traffic/GlobalChannelTrafficCounter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/JdkBaseApplicationProtocolNegotiator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSsl.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/CipherSuiteFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/JdkSslContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ipfilter/AbstractRemoteAddressFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/util/FingerprintTrustManagerFactory.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/JdkSslClientContext.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ipfilter/IpFilterRuleType.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/SupportedCipherSuiteFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/ApplicationProtocolUtil.java  
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jar/io/netty/handler/ssl/JettyAlpnSslEngine.java  
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jar/io/netty/handler/ssl/PemReader.java  
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jar/io/netty/handler/ssl/SniHandler.java  
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jar/io/netty/handler/ssl/OpenSslEngineMap.java  
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jar/io/netty/handler/ssl/util/BouncyCastleSelfSignedCertGenerator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ipfilter/IpSubnetFilterRule.java  
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jar/io/netty/handler/ssl/JdkApplicationProtocolNegotiator.java  
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jar/io/netty/handler/ipfilter/IpFilterRule.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/CipherSuiteConverter.java  
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jar/io/netty/handler/ipfilter/RuleBasedIpFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/OpenSslSessionStats.java  
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jar/io/netty/handler/ssl/JettyNpnSslEngine.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
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jar/io/netty/handler/logging/ByteBufFormat.java  
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jar/io/netty/handler/address/ResolveAddressHandler.java  
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jar/io/netty/handler/ipfilter/IpSubnetFilter.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ipfilter/IpSubnetFilterRuleComparator.java  
\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-  
jar/io/netty/handler/ssl/SslHandshakeTimeoutException.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/SslClosedEngineException.java

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\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/SslContextBuilder.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/OpenSslSessionTicketKey.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolAccessor.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/ClientAuth.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/ApplicationProtocolNames.java

\* /opt/cola/permits/1735716183\_1688166915.4300108/0/netty-handler-4-1-94-final-sources-jar/io/netty/handler/ssl/util/LazyJavaxX509Certificate.java

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\*/

Found in path(s):

\* /opt/cola/permits/1743477447\_1689201662.6224673/0/micronaut-http-netty-3-9-4-sources-jar/io/micronaut/http/netty/reactive/package-info.java



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## 1.85 jackson-annotations 2.15.1

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```
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```

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## 1.90 protobuf-java-util 3.21.12

### 1.90.1 Available under license :

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Manifest-Version: 1.0

Automatic-Module-Name: com.google.protobuf.util

Bnd-LastModified: 1671050288830

Build-Jdk: 11.0.13

Built-By: kfm

Bundle-Description: Utilities for Protocol Buffers

Bundle-DocURL: <https://developers.google.com/protocol-buffers/>

Bundle-License: <https://opensource.org/licenses/BSD-3-Clause>

Bundle-ManifestVersion: 2

Bundle-Name: Protocol Buffers [Util]

Bundle-SymbolicName: com.google.protobuf.util

Bundle-Version: 3.21.12

Created-By: Apache Maven Bundle Plugin

Export-Package: com.google.protobuf.util;version="3.21.12";uses:="com.google.protobuf,javax.annotation"

Import-Package: com.google.common.base;version="[31.1,32)",com.google.common.io;version="[31.1,32)",com.google.common.math;version="[31.1,32)",com.google.common.primitives;version="[31.1,32)",com.google.gson;version="[2.8,3)",com.google.gson.stream;version="[2.8,3)",com.google.protobuf;version="[3.21,4)",javax.annotation;version="[3.0,4)"

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.7))"

Tool: Bnd-3.0.0.201509101326

Found in path(s):

\* /opt/cola/permits/1528958162\_1673434355.07393/0/protobuf-java-util-3-21-12-jar/META-INF/MANIFEST.MF

# 1.91 log4j-jcl 2.17.1

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## 1.92 jsr305 3.0.2

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*/
```

Found in path(s):

```
* /opt/cola/permits/1656638364_1682593601.2844107/0/jsr305-3-0-2-sources-9-jar/javax/annotation/concurrent/ThreadSafe.java  
* /opt/cola/permits/1656638364_1682593601.2844107/0/jsr305-3-0-2-sources-9-jar/javax/annotation/concurrent/NotThreadSafe.java  
* /opt/cola/permits/1656638364_1682593601.2844107/0/jsr305-3-0-2-sources-9-jar/javax/annotation/concurrent/Immutable.java  
* /opt/cola/permits/1656638364_1682593601.2844107/0/jsr305-3-0-2-sources-9-jar/javax/annotation/concurrent/GuardedBy.java
```

## 1.93 javax-inject 1

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## 1.94 micronaut-json-core 3.9.4

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Found in path(s):

- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/bind/JsonBeanPropertyBinder.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/convert/JsonNodeConvertibleValues.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/codec/MapperMediaTypeCodec.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/bind/package-info.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/JsonObjectSerializer.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/codec/JsonMediaTypeCodec.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/codec/JsonStreamMediaTypeCodec.java

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- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonString.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/bind/JsonBeanPropertyBinderExceptionHandler.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonContainer.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonNode.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/JsonFeatures.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonNull.java
- \* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonNumber.java



\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonScalar.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/JsonStreamConfig.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonBoolean.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonObject.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/JsonConfiguration.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/convert/JsonConverterRegistrar.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/JsonMapper.java  
\* /opt/cola/permits/1743477313\_1689201667.1094341/0/micronaut-json-core-3-9-4-sources-jar/io/micronaut/json/tree/JsonArray.java

## 1.95 ssl-client 1.36.1-r1

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/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/[: binary file matches  
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/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
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/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
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/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/busybox: binary file

matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bzcat: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bzip2: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cal: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cat: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
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/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
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tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chgrp: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chmod: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chown: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chpasswd: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chpst: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chroot: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chrt: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chvt: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cksum: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/clear: binary file

matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cmp: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/comm: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/conspy: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cp: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cpio: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/crc32: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/crond: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/crontab: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cryptpw: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cttyhack: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cut: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/date: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dc: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dd: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/deallocvt: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/delgroup: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/deluser: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/depmod: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/devmem: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/df: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dhcprelay: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/diff: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dirname: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dmesg: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dnsd: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dnsdomainname: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dos2unix: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dpkg: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dpkg-deb: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/du: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dumpkmap: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dumpleases: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/echo: binary file

matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ed: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/egrep: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/eject: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/env: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/envdir: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/envuidgid: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ether-wake: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/expand: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/expr: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/factor: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fakeidentd: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fallocate: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/false: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fatattr: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fbset: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fbsplash: binary file  
matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fdf flush: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fdformat: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fdisk: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fgconsole: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fgrep: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/find: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/findfs: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/flock: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fold: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/free: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/freeramdisk: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsck: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsck.minix: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsfreeze: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fstrim: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsync: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ftpd: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ftpget: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ftpput: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fuser: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/getconf: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/getopt: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/getty: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/grep: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/groups: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/gunzip: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/gzip: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/halt: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hd: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hdparm: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/head: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hexdump: binary file matches



/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hexedit: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hostid: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hostname: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/httpd: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hush: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hwclock: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cdetect: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cdump: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cget: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cset: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2ctransfer: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/id: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifconfig: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifdown: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifenslave: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifplugd: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifup: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/inetd: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/init: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/insmod: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/install: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ionice: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iostat: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ip: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipaddr: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipcalc: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipcrm: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipcs: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iplink: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipneigh: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iproute: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iprule: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iptunnel: binary file

matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/kbd\_mode: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/kill: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/killall: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/killall5: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/klogd: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/last: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/less: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/link: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/linux32: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/linux64: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/linuxrc: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lm: binary file matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/loadfont: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/loadkmap: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/logger: binary file  
matches  
/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/login: binary file  
matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/logname: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/logread: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/losetup: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lpd: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lpq: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lpr: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/lib/ld-linux-x86-64.so.2: binary file matches

/opt/cola/permits/1739609420\_1689111342.8501103/0/busybox-1-36-1-2-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/lib/libc.so.6: binary file matches

Found in path(s):

\* /bin/grep

## 1.96 alpine-baselayout 3.4.3-r1

### 1.96.1 Available under license :

No license file was found, but licenses were detected in source scan.

/\*

\* Create mount directories in fstab

\*

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\*

\* usage: mkmntdirs [fstab]

\*

\*/

Found in path(s):

\* /opt/cola/permits/1675356458\_1684887865.7744117/0/alpine-baselayout-master-zip/alpine-baselayout-master/src/mkmntdirs.c

# 1.97 xerces-j 2.12.2

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# 1.100 micronaut-kafka 4.5.4

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## 1.101 snake-yaml 2.0

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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/representer/SafeRepresenter.java
```

```
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/parser/Parser.java
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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java
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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
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```

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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/tokens/ValueToken.java
```

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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/events/StreamEndEvent.java
```

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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
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```

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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
jar/org/yaml/snakeyaml/events/AliasEvent.java
```

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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-  
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* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/TypeDescription.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/ScannerException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowSequenceStartToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/SequenceNode.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/resolver/Resolver.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/inspector/TagInspector.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/Constructor.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/SimpleKey.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/DocumentStartEvent.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/FlowEntryToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/TagToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/Token.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/serializer/NumberAnchorGenerator.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/AnchorToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/error/MissingEnvironmentVariableException.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/BaseConstructor.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/StreamEndToken.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/composer/Composer.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactData.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/PropertyUtils.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/nodes/Tag.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/NodeEvent.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/reader/StreamReader.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/internal/Logger.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/MappingStartEvent.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/scanner/ScannerImpl.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/KeyToken.java



\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/TagTuple.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/tokens/BlockEntryToken.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/MissingProperty.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/events/Event.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java  
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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/comments/CommentType.java  
\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/introspector/GenericProperty.java

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\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java

\* /opt/cola/permits/1584157893\_1677999786.1262538/0/snakeyaml-2-0-sources-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java

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/**
 * A Base64 encoder/decoder.
 *
 * <p>
 * This class is used to encode and decode data in Base64 format as described in RFC 1521.
 *
 * <p>
 * Project home page: <a href="http://www.source-code.biz/base64coder/java/">www.
 * source-code.biz/base64coder/java</a><br>
 * Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland<br>
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 */
```

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```
* /opt/cola/permits/1584157893_1677999786.1262538/0/snakeyaml-2-0-sources-
jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java
```

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# 1.102 re2j 1.6

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jar/com/google/re2j/PatternSyntaxException.java

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\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/Parser.java

\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/Prog.java

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\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/Regexp.java

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\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/Compiler.java

\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/RE2.java

\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/Inst.java

\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-jar/com/google/re2j/Pattern.java

\* /opt/cola/permits/1300482759\_1649149014.06/0/re2j-1-6-sources-

jar/com/google/re2j/super/com/google/re2j/Characters.java

## 1.103 netty-transport 4.1.94.Final

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jar/io/netty/channel/socket/oio/OioDatagramChannelConfig.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/bootstrap/FailedChannel.java
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jar/io/netty/channel/internal/package-info.java
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* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
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* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/PendingBytesTracker.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/socket/ChannelInputShutdownReadComplete.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
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jar/io/netty/channel/ServerChannelRecvByteBufAllocator.java

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\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-  
jar/io/netty/channel/socket/DuplexChannelConfig.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-  
jar/io/netty/channel/StacklessClosedChannelException.java

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\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ExtendedClosedChannelException.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelHandlerMask.java

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\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelFactory.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/PendingWriteQueue.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/AbstractEventLoop.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/embedded/EmbeddedChannelId.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ReflectiveChannelFactory.java

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\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/MaxBytesRecvByteBufAllocator.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/FixedChannelPool.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultMaxBytesRecvByteBufAllocator.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/AbstractChannelPoolHandler.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/AbstractChannelPoolMap.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/ChannelPoolHandler.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/MaxMessagesRecvByteBufAllocator.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/SimpleChannelPool.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/ChannelPool.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/pool/ChannelPoolMap.java  
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- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelInboundInvoker.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/BootstrapConfig.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/VoidChannelGroupFuture.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/PreferHeapByteBufAllocator.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/DuplexChannel.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/SelectStrategy.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultSelectStrategyFactory.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultSelectStrategy.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/ServerBootstrapConfig.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/WriteBufferWaterMark.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/AbstractBootstrapConfig.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelOutboundInvoker.java

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/\*\*

\* Handles an I/O event or intercepts an I/O operation, and forwards it to its next handler in  
\* its { @link ChannelPipeline }.

\*

\* <h3>Sub-types</h3>

\* <p>

\* { @link ChannelHandler } itself does not provide many methods, but you usually have to implement one of its  
subtypes:

\* <ul>

\* <li>{ @link ChannelInboundHandler } to handle inbound I/O events, and</li>

\* <li>{ @link ChannelOutboundHandler } to handle outbound I/O operations.</li>

\* </ul>

\* </p>

\* <p>

\* Alternatively, the following adapter classes are provided for your convenience:

\* <ul>

\* <li>{ @link ChannelInboundHandlerAdapter } to handle inbound I/O events,</li>

\* <li>{ @link ChannelOutboundHandlerAdapter } to handle outbound I/O operations, and</li>

\* <li>{ @link ChannelDuplexHandler } to handle both inbound and outbound events</li>

\* </ul>

\* </p>

\* <p>

\* For more information, please refer to the documentation of each subtype.

\* </p>

\*

\* <h3>The context object</h3>

```

* <p>
* A {@link ChannelHandler} is provided with a {@link ChannelHandlerContext}
* object. A {@link ChannelHandler} is supposed to interact with the
* {@link ChannelPipeline} it belongs to via a context object. Using the
* context object, the {@link ChannelHandler} can pass events upstream or
* downstream, modify the pipeline dynamically, or store the information
* (using {@link AttributeKey}s) which is specific to the handler.
*
* <h3>State management</h3>
*
* A {@link ChannelHandler} often needs to store some stateful information.
* The simplest and recommended approach is to use member variables:
* <pre>
* public interface Message {
*     // your methods here
* }
*
* public class DataServerHandler extends {@link SimpleChannelInboundHandler}&lt;Message&gt; {
*
*     <b>private boolean loggedIn;</b>
*
*     {@code @Override}
*     public void channelRead0({@link ChannelHandlerContext} ctx, Message message) {
*         if (message instanceof LoginMessage) {
*             authenticate((LoginMessage) message);
*             <b>loggedIn = true;</b>
*         } else (message instanceof GetDataMessage) {
*             if (<b>loggedIn</b>) {
*                 ctx.writeAndFlush(fetchSecret((GetDataMessage) message));
*             } else {
*                 fail();
*             }
*         }
*     }
*     ...
* }
* </pre>
*
* Because the handler instance has a state variable which is dedicated to
* one connection, you have to create a new handler instance for each new
* channel to avoid a race condition where an unauthenticated client can get
* the confidential information:
* <pre>
* // Create a new handler instance per channel.
* // See {@link ChannelInitializer#initChannel(Channel)}.
* public class DataServerInitializer extends {@link ChannelInitializer}&lt;{@link Channel}&gt; {
*     {@code @Override}
*     public void initChannel({@link Channel} channel) {
*         channel.pipeline().addLast("handler", <b>new DataServerHandler()</b>);

```

```

* }
* }
*
* </pre>
*
* <h4>Using { @link AttributeKey}s</h4>
*
* Although it's recommended to use member variables to store the state of a
* handler, for some reason you might not want to create many handler instances.
* In such a case, you can use { @link AttributeKey}s which is provided by
* { @link ChannelHandlerContext}:
* <pre>
* public interface Message {
*     // your methods here
* }
*
* { @code @Sharable}
* public class DataServerHandler extends { @link SimpleChannelInboundHandler}&lt;Message&gt; {
*     private final { @link AttributeKey}&lt;Boolean&gt; auth =
*         { @link AttributeKey#valueOf(String) AttributeKey.valueOf("auth")};
*
*     { @code @Override}
*     public void channelRead({ @link ChannelHandlerContext} ctx, Message message) {
*         { @link Attribute}&lt;Boolean&gt; attr = ctx.attr(auth);
*         if (message instanceof LoginMessage) {
*             authenticate((LoginMessage) o);
*             <b>attr.set(true)</b>;
*         } else (message instanceof GetDataMessage) {
*             if (<b>Boolean.TRUE.equals(attr.get())</b>) {
*                 ctx.writeAndFlush(fetchSecret((GetDataMessage) o));
*             } else {
*                 fail();
*             }
*         }
*     }
* }
* ...
* </pre>
*
* Now that the state of the handler is attached to the { @link ChannelHandlerContext}, you can add the
* same handler instance to different pipelines:
* <pre>
* public class DataServerInitializer extends { @link ChannelInitializer}&lt;Channel&gt; {
*
*     private static final DataServerHandler <b>SHARED</b> = new DataServerHandler();
*
*     { @code @Override}
*     public void initChannel({ @link Channel} channel) {
*         channel.pipeline().addLast("handler", <b>SHARED</b>);

```



```

*   }
* }
* </pre>
*
*
* <h4>The { @code @Sharable} annotation</h4>
* <p>
* In the example above which used an { @link AttributeKey},
* you might have noticed the { @code @Sharable} annotation.
* <p>
* If a { @link ChannelHandler} is annotated with the { @code @Sharable}
* annotation, it means you can create an instance of the handler just once and
* add it to one or more { @link ChannelPipeline}s multiple times without
* a race condition.
* <p>
* If this annotation is not specified, you have to create a new handler
* instance every time you add it to a pipeline because it has unshared state
* such as member variables.
* <p>
* This annotation is provided for documentation purpose, just like
* <a href="http://www.javaconcurrencyinpractice.com/annotations/doc/">the JCIP annotations</a>.
*
* <h3>Additional resources worth reading</h3>
* <p>
* Please refer to the { @link ChannelHandler}, and
* { @link ChannelPipeline} to find out more about inbound and outbound operations,
* what fundamental differences they have, how they flow in a pipeline, and how to handle
* the operation in your application.
*/

```

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```

* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
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- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/AbstractEventLoopGroup.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/DefaultChannelGroup.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultMessageSizeEstimator.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/SimpleChannelInboundHandler.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/OioSocketChannelConfig.java
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- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/ChannelGroup.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelId.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/ChannelMatcher.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/MessageSizeEstimator.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/ChannelMatchers.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelProgressivePromise.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ConnectTimeoutException.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelOutboundBuffer.java
- \* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/DefaultOioServerSocketChannelConfig.java

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\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/SelectedSelectionKeySet.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/DefaultOioSocketChannelConfig.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/ChannelGroupException.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelHandlerAdapter.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelProgressiveFuture.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelProgressiveFutureListener.java  
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\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/OioServerSocketChannelConfig.java  
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jar/io/netty/channel/AbstractCoalescingBufferQueue.java  
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Found in path(s):

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-  
jar/io/netty/channel/socket/nio/SelectorProviderUtil.java  
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Found in path(s):

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/local/LocalServerChannel.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/local/LocalChannelRegistry.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/FileRegion.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelDuplexHandler.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/AdaptiveRecvByteBufAllocator.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultEventLoopGroup.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelOutboundHandler.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/embedded/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ThreadPerChannelEventLoopGroup.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultChannelPipeline.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/oio/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelMetadata.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/NioEventLoop.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/SocketChannelConfig.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelPromise.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/oio/OioEventLoopGroup.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/CombinedIterator.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelException.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelFutureListener.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelFlushPromiseNotifier.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/AbstractChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/ServerSocketChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/NioTask.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/nio/ProtocolFamilyConverter.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelConfig.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/MultithreadEventLoopGroup.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/ChannelInputShutdownEvent.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/package-info.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/DefaultServerSocketChannelConfig.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelPromiseAggregator.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/AbstractChannelHandlerContext.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/CompleteChannelFuture.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelFuture.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelInitializer.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/DatagramChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelPipeline.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/OioDatagramChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/package-info.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelHandlerContext.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/Channel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/ChannelGroupFutureListener.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/AbstractServerChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/DefaultChannelGroupFuture.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/FixedRecvByteBufAllocator.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/local/LocalChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelInboundHandlerAdapter.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/local/package-info.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/DatagramPacket.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/AbstractBootstrap.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/OioServerSocketChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/SingleThreadEventLoop.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/AbstractNioChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/oio/AbstractOioMessageChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/embedded/EmbeddedChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/ServerSocketChannelConfig.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/DatagramChannelConfig.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/FailedChannelFuture.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/SocketChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelOutboundHandlerAdapter.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/nio/NioDatagramChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/EventLoopException.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/ServerBootstrap.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/nio/NioServerSocketChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/oio/AbstractOioByteChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultEventLoop.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/Bootstrap.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultFileRegion.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ServerChannel.java

\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/group/ChannelGroupFuture.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/DefaultChannelConfig.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelPipelineException.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ThreadPerChannelEventLoop.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/SucceededChannelFuture.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/local/LocalEventLoopGroup.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/EventLoop.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/nio/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/bootstrap/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/oio/OioSocketChannel.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelPromiseNotifier.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/nio/NioSocketChannel.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/RecvByteBufAllocator.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/EventLoopGroup.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/nio/NioDatagramChannelConfig.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/AbstractNioByteChannel.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/embedded/EmbeddedSocketAddress.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/AbstractNioMessageChannel.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/VoidChannelPromise.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/local/LocalAddress.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/nio/package-info.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/socket/InternetProtocolFamily.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/oio/AbstractOioChannel.java  
\* /opt/cola/permits/1735716162\_1688166869.6417358/0/netty-transport-4-1-94-final-sources-jar/io/netty/channel/ChannelInboundHandler.java



```
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/ChannelOption.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/socket/DefaultSocketChannelConfig.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/embedded/EmbeddedEventLoop.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/DefaultChannelPromise.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/CombinedChannelDuplexHandler.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/socket/DefaultDatagramChannelConfig.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/nio/NioEventLoopGroup.java
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```
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/SimpleUserEventChannelHandler.java
* /opt/cola/permits/1735716162_1688166869.6417358/0/netty-transport-4-1-94-final-sources-
jar/io/netty/channel/socket/nio/NioChannelOption.java
```

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\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/AsiExtraField.java  
\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/ZipLong.java  
\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/ZipExtraField.java  
\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/ZipShort.java  
\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/ExtraFieldUtils.java  
\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/ZipConstants.java  
\* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-  
jar/org/zeroturnaround/zip/extra/UnrecognizedExtraField.java  
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- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/FileExistsException.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/IOUtils.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/FileUtilsV2\_2.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/StringBuilderWriter.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/FilenameUtils.java

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- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZTFileUtil.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipInfoCallback.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/NameMapper.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/FileSource.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipEntryUtil.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/PreJava8TimestampStrategy.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/Zips.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/TimestampStrategy.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ByteSource.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/Java8TimestampStrategy.java
- \* /opt/cola/permits/1135879776\_1613624027.25/0/zt-zip-1-14-sources-1-

```
jar/org/zeroturnaround/zip/ZipEntrySource.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/IdentityNameMapper.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipUtil.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/timestamps/TimestampStrategyFactory.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-
jar/org/zeroturnaround/zip/ZipEntryCallback.java
```

# 1.105 musl-utils 1.2.4-r0

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iconv:

iconv.c

Implementation of SUSv4 XCU iconv utility

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## 1.106 namespace 1.4.01

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```
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\* /opt/cola/permits/1682034960\_1684512059.4871073/0/micronaut-grpc-client-runtime-3-6-0-sources-jar/io/micronaut/grpc/channels/GrpcDefaultManagedChannelConfiguration.java  
\* /opt/cola/permits/1682034960\_1684512059.4871073/0/micronaut-grpc-client-runtime-3-6-0-sources-jar/io/micronaut/grpc/channels/GrpcManagedChannelConfiguration.java  
\* /opt/cola/permits/1682034960\_1684512059.4871073/0/micronaut-grpc-client-runtime-3-6-0-sources-jar/io/micronaut/grpc/channels/GrpcChannelBuilderFactory.java  
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## 1.108 jackson 2.15.1

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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library.

It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007.

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

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

```

jar/org/picocontainer/injectors/CompositeInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Injector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/InjectInto.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/references/ThreadLocalMapObjectReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/CompositeInjection.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Injector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/MultiInjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/ObjectReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/behaviors/Decorated.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Reinjection.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/references/ThreadLocalReference.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/Reinjector.java
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/injectors/MultiInjection.java

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

```

jar/org/picocontainer/behaviors/AdaptingBehavior.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/PropertyApplicator.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/AnnotatedFieldInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/monitors/LifecycleComponentMonitor.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/PicoContainer.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Automating.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/ComponentFactory.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/adapters/AbstractAdapter.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/Injectors.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/Characteristics.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/PropertyApplying.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/annotations/Inject.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/containers/TransientPicoContainer.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/DefaultPicoContainer.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/lifecycle/NullLifecycleStrategy.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/parameters/BasicComponentParameter.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Synchronizing.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/NamedMethodInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/PicoVerificationException.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/PicoException.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/annotations/Cache.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/containers/CommandLinePicoContainer.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/TypedFieldInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/adapters/InstanceAdapter.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-

jar/org/picocontainer/injectors/TypedFieldInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/NamedFieldInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/parameters/CollectionComponentParameter.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Locking.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/annotations/Nullable.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Behaviors.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/AbstractInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/BehaviorFactory.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/PicoBuilder.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/InjectionFactory.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/AnnotatedMethodInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/ImplementationHiding.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/HiddenImplementation.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/parameters/ComponentParameter.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/containers/ImmutablePicoContainer.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Synchronized.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/SetterInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/PicoClassNotFoundException.java

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jar/org/picocontainer/lifecycle/LifecycleState.java

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

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

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

jar/org/picocontainer/behaviors/Decorating.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/FieldDecorating.java  
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*   *  
* Original code by Jon Tirsen                                       *  
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jar/org/picocontainer/behaviors/AbstractBehavior.java  
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\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/containers/CompositePicoContainer.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/MutablePicoContainer.java  
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jar/org/picocontainer/injectors/PrimitiveMemberChecker.java

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jar/org/picocontainer/ComponentMonitor.java

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

jar/org/picocontainer/monitors/AbstractComponentMonitor.java

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- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/containers/PropertiesPicoContainer.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/MethodInjector.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Intercepting.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/PicoLifecycleException.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ForgetfulConstructorInjection.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/behaviors/Intercepted.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/containers/SystemPropertiesPicoContainer.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/containers/CommandLineArgumentsPicoContainer.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/ParameterNameBinding.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/parameters/AbstractParameter.java
- \* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/injectors/SingleMemberInjector.java

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jar/org/picocontainer/composers/RegexComposer.java
```

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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/monitors/ComposingMonitor.java
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* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-
jar/org/picocontainer/parameters/ConstantParameter.java
```

```
* /opt/cola/permits/1266565840_1644246713.67/0/picocontainer-2-15-sources-jar/org/picocontainer/Parameter.java
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jar/org/picocontainer/classname/ClassPathElement.java
```

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

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

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

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

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

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jar/org/picocontainer/behaviors/ThreadCached.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Guarding.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/SetterInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/MethodInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/AnnotatedMethodInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/AdaptingInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/ConstructorInjection.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/ThreadCaching.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/injectors/ConstructorInjector.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Storing.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Caching.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/PicoCompositionException.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/OptInCaching.java  
\* /opt/cola/permits/1266565840\_1644246713.67/0/picocontainer-2-15-sources-  
jar/org/picocontainer/behaviors/Cached.java

## 1.111 opentelemetry-sdk-extension-autoconfigure-spi 1.24.0

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## 1.112 micronaut-jackson-core 3.9.4

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\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/tree/JsonNodeTreeCodec.java  
\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/tree/JsonNodeTraversingParser.java  
\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/tree/TreeGenerator.java

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\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/env/CloudFoundryVcapApplicationPropertySourceLoader.java  
\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/env/JsonPropertySourceLoader.java  
\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/env/CloudFoundryVcapServicesPropertySourceLoader.java  
\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/parser/JacksonCoreProcessor.java  
\* /opt/cola/permits/1743477330\_1689201630.0520744/0/micronaut-jackson-core-3-9-4-sources-jar/io/micronaut/jackson/core/env/package-info.java

## 1.113 bean-validation-api 2.0.1.Final

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## 1.114 commons-codec 1.14

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# 1.115 jackson-datatype-jdk8 2.14.2

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## 1.116 openssl 3.1.1-r1

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## 1.117 micronaut-runtime 3.9.4

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```
* /opt/cola/permits/1743477417_1689201749.956033/0/micronaut-runtime-3-9-4-sources-
jar/io/micronaut/reactive/reactor/instrument/ReactorInstrumentation.java
```

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- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/reactive/package-info.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/DefaultCompositeDiscoveryClient.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/HeartbeatEvent.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/logging/LogLevel.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/RetryStateBuilder.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/logging/LoggingSystem.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/event/AbstractServiceInstanceEvent.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/exception/RetryException.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanMetadataResolver.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/event/package-info.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/RetryState.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/event/ServiceStoppedEvent.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/runtime/http/codecs/TextPlainCodec.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/StaticServiceInstanceList.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanMetadataConfiguration.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/metadata/ServiceInstanceMetadataContributor.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/event/package-info.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/registration/RegistrationException.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/NetworkInterface.java
- \* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/logging/PropertiesLoggingLevelsConfigurer.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/runtime/http/scope/RequestCustomScope.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/config/ConfigurationClient.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/DiscoveryConfiguration.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/CircuitState.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/runtime/http/codec/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/registration/RegistrationConfiguration.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/EmbeddedServerInstance.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/event/RetryEventListener.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanInstanceMetadata.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/AnnotationRetryStateBuilder.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/DiscoveryClient.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanMetadataKeys.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/annotation/Fallback.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/reactive/flow/converters/FlowConverterRegistrar.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/ServiceInstanceList.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/registration/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/exceptions/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/annotation/DefaultRetryPredicate.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/runtime/http/scope/RequestScope.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/AbstractComputeInstanceMetadata.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/metadata/package-info.java



\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/exception/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/CurrentHealthStatus.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/event/RetryEvent.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/HeartbeatTask.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/runtime/http/codec/MediaTypeCodecRegistryFactory.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/exception/CircuitOpenException.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/config/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/annotation/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/event/CircuitClosedEvent.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/exceptions/DiscoveryException.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/package-info.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/DefaultRetryInterceptor.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/SimpleRetry.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/logging/impl/Log4jLoggingSystem.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/MutableRetryState.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/annotation/CircuitBreaker.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/RecoveryInterceptor.java

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\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/digitalocean/DigitalOceanNetworkInterface.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/annotation/RetryPredicate.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/registration/AutoRegistration.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/DefaultCurrentHealthStatus.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/ServiceInstanceIdGenerator.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/exceptions/NoAvailableServiceException.java

\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/runtime/http/scope/RequestAware.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/ComputeInstanceMetadataResolverUtils.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/event/ServiceReadyEvent.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/HeartbeatConfiguration.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/DefaultServiceInstance.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/ComputeInstanceMetadata.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/DefaultServiceInstanceIdGenerator.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/HealthStatus.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/event/CircuitOpenEvent.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/intercept/CircuitBreakerRetry.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/HeartbeatDiscoveryClientCondition.java  
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\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/ServiceInstance.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/config/DefaultCompositeConfigurationClient.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/health/HeartbeatEnabled.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/exception/FallbackException.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/cloud/ComputeInstanceMetadataResolver.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/retry/annotation/Retryable.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/CompositeDiscoveryClient.java  
\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/discovery/config/ConfigDiscoveryConfiguration.java

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\* /opt/cola/permits/1743477417\_1689201749.956033/0/micronaut-runtime-3-9-4-sources-jar/io/micronaut/logging/impl/LogbackLoggingSystem.java

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## 1.118 micronaut-jackson-databind 3.9.4

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\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-jar/io/micronaut/jackson/serialize/JsonNodeSerializer.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-jar/io/micronaut/jackson/codecs/JacksonMediaTypeCodec.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-

jar/io/micronaut/jackson/JacksonConfiguration.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-  
jar/io/micronaut/jackson/serialize/JsonNodeDeserializer.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-  
jar/io/micronaut/jackson/databind/JacksonDatabindMapper.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-  
jar/io/micronaut/jackson/databind/DatabindPropertyBinderExceptionHandler.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-  
jar/io/micronaut/jackson/ObjectMapperFactory.java  
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jar/io/micronaut/jackson/ResilientBeanDeserializerFactory.java  
\* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-  
jar/io/micronaut/jackson/JacksonDatabindFeature.java  
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- \* /opt/cola/permits/1743477457\_1689201639.7708552/0/micronaut-jackson-databind-3-9-4-sources-jar/io/micronaut/jackson/databind/convert/ObjectNodeConvertibleValues.java
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# 1.119 libjpeg 6b

## 1.119.1 Notifications :

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

## 1.119.2 Available under license :

The Independent JPEG Group's JPEG software

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README for release 6b of 27-Mar-1998

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

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

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

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

### DOCUMENTATION ROADMAP

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This file contains the following sections:

- OVERVIEW        General description of JPEG and the IJG software.
- LEGAL ISSUES    Copyright, lack of warranty, terms of distribution.
- REFERENCES     Where to learn more about JPEG.
- ARCHIVE LOCATIONS    Where to find newer versions of this software.
- RELATED SOFTWARE    Other stuff you should get.
- FILE FORMAT WARS    Software \*not\* to get.
- TO DO            Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

- install.doc     How to configure and install the IJG software.
- usage.doc       Usage instructions for cjpeg, djpeg, jpegtran,

rdjpgcom, and wrjpgcom.

- \*.1            Unix-style man pages for programs (same info as usage.doc).
  - wizard.doc    Advanced usage instructions for JPEG wizards only.
  - change.log    Version-to-version change highlights.
- Programmer and internal documentation:
- libjpeg.doc   How to use the JPEG library in your own programs.
  - example.c     Sample code for calling the JPEG library.
  - structure.doc  Overview of the JPEG library's internal structure.
  - filelist.doc   Road map of IJG files.
  - coderrules.doc Coding style rules --- please read if you contribute code.

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

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

## OVERVIEW

=====

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

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

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

In order to support file conversion and viewing software, we have included



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

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

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

## LEGAL ISSUES

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3. You may not pretend that you wrote this software. If you use it in a program, you must acknowledge somewhere in your documentation that you've used the IJG code.

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(2) If only executable code is distributed, then the accompanying documentation must state that "this software is based in part on the work of the Independent JPEG Group".

(3) Permission for use of this software is granted only if the user accepts full responsibility for any undesirable consequences; the authors accept NO LIABILITY for damages of any kind.

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

Permission is NOT granted for the use of any IJG author's name or company name in advertising or publicity relating to this software or products derived from it. This software may be referred to only as "the Independent JPEG Group's software".

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

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

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

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

The IJG distribution formerly included code to read and write GIF files.

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

We are required to state that

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## REFERENCES

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

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

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

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

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified

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

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

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

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

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

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

#### ARCHIVE LOCATIONS

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The "official" archive site for this software is <ftp.uu.net> (Internet

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

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

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

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

send usenet/news.answers/jpeg-faq/part1

send usenet/news.answers/jpeg-faq/part2

#### RELATED SOFTWARE

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

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites, notably <ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/>. Unfortunately PBPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from <ftp://havefun.stanford.edu/pub/jpeg/>. This program is designed for research and experimentation rather than production use;

it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

## FILE FORMAT WARS

=====

Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read. (For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

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

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

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

## TO DO

=====

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

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

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to [jpeg-info@uunet.uu.net](mailto:jpeg-info@uunet.uu.net).

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\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/util/DelegatingContextContinuation.kt  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/InvocationContext.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/package-



info.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/chain/package-info.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/internal/intercepted/InterceptedMethodUtil.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/Intercepted.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/MethodInterceptor.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/internal/intercepted/CompletionStageInterceptedMethod.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/util/KotlinInterceptedMethodHelper.kt  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/Interceptor.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/writer/AopProxyWriter.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/exceptions/package-info.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/Introduction.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/Introduced.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/MethodInvocationContext.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/InterceptedProxy.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/internal/intercepted/KotlinInterceptedMethod.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/internal/intercepted/SynchronousInterceptedMethod.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/writer/package-info.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/InterceptPhase.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/Adapter.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/HotSwappableInterceptedProxy.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/Around.java  
\* /opt/cola/permits/1743477465\_1689201622.157401/0/micronaut-aop-3-9-4-sources-jar/io/micronaut/aop/chain/MethodInterceptorChain.java

## 1.121 commons-logging 1.2

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\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Log4JLogger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogFactoryImpl.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk13LumberjackLogger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/SimpleLog.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/Jdk14Logger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/LogSource.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/NoOpLog.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/impl/LogKitLogger.java  
\* /opt/cola/permits/1135840457\_1613613080.13/0/commons-logging-1-1-sources-9-jar/org/apache/commons/logging/Log.java

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## 1.122 okhttp 4.8.1

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## 1.123 animal-sniffer-annotation 1.19

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## 1.124 rate-limited-logger 2.0.2

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## 1.125 annotations 13.0

## 1.126 httpclient-cache 4.5.13

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# 1.128 protobuf-java 3.19.6

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

Found in path(s):

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

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- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/timestamp.proto
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- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/wrappers.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/type.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/empty.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/any.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/descriptor.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/duration.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/field\_mask.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/compiler/plugin.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/source\_context.proto
- \* /opt/cola/permits/1444789790\_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/api.proto

## 1.129 micronaut-http 3.9.4

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Found in path(s):

- \* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/uri/QueryStringDecoder.java

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\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/PushCapableHttpRequest.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/bind/binders/HttpCoroutineContextFactory.kt

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/ssl/AbstractClientSslConfiguration.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/filter/FilterPatternStyle.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/cookie/SameSiteConverter.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/util/HttpTypeInformationProvider.java

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# This file maps Internet media types to unique file extension(s).

# Although created for httpd, this file is used by many software systems

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#

# The table below contains both registered and (common) unregistered types.

# A type that has no unique extension can be ignored -- they are listed

# here to guide configurations toward known types and to make it easier to

# identify "new" types. File extensions are also commonly used to indicate

# content languages and encodings, so choose them carefully.

#

```

# Internet media types should be registered as described in RFC 4288.
# The registry is at <https://www.iana.org/assignments/media-types/>.
#
# https://svn.apache.org/viewvc/httpd/trunk/docs/conf/mime.types?revision=1810121&view=co
#
# MIME type (lowercased) Extensions
# =====
# application/1d-interleaved-parityfec
# application/3gpdash-qoe-report+xml
# application/3gpp-ims+xml
# application/a2l
# application/activemessage
# application/alto-costmap+json
# application/alto-costmapfilter+json
# application/alto-directory+json
# application/alto-endpointcost+json
# application/alto-endpointcostparams+json
# application/alto-endpointprop+json
# application/alto-endpointpropparams+json
# application/alto-error+json
# application/alto-networkmap+json
# application/alto-networkmapfilter+json
# application/aml
application/andrew-inset ez
# application/applefile
application/applixware aw
# application/atf
# application/atfx
application/atom+xml atom
application/atomcat+xml atomcat
# application/atomdeleted+xml
# application/atomicmail
application/atomsvc+xml atomsvc
# application/atxml
# application/auth-policy+xml
# application/bacnet-xdd+zip
# application/batch-smtp
# application/beep+xml
# application/calendar+json
# application/calendar+xml
# application/call-completion
# application/cals-1840
# application/cbor
# application/ccmp+xml
application/ccxml+xml ccxml
# application/cdfx+xml
application/cdmi-capability cdmia
application/cdmi-container cdmic

```

application/cdmi-domain cdmid  
application/cdmi-object cdmio  
application/cdmi-queue cdmiq  
# application/cdni  
# application/cea  
# application/cea-2018+xml  
# application/cellml+xml  
# application/cfw  
# application/cms  
# application/cnrx+xml  
# application/coap-group+json  
# application/commonground  
# application/conference-info+xml  
# application/cpl+xml  
# application/csrattrs  
# application/csta+xml  
# application/cstadata+xml  
# application/csvm+json  
application/cu-seeme cu  
# application/cybercash  
# application/dash+xml  
# application/dashdelta  
application/davmount+xml davmount  
# application/dca-rft  
# application/dcd  
# application/dec-dx  
# application/dialog-info+xml  
# application/dicom  
# application/dii  
# application/dit  
# application/dns  
application/docbook+xml dbk  
# application/dskpp+xml  
application/dssc+der dssc  
application/dssc+xml xdssc  
# application/dvcs  
application/ecmascript ecma  
# application/edi-consent  
# application/edi-x12  
# application/edifact  
# application/efi  
# application/emergencycalldata.comment+xml  
# application/emergencycalldata.deviceinfo+xml  
# application/emergencycalldata.providerinfo+xml  
# application/emergencycalldata.serviceinfo+xml  
# application/emergencycalldata.subscriberinfo+xml  
application/emma+xml emma  
# application/emotionml+xml



# application/encaprtpt  
# application/epp+xml  
application/epub+zip epub  
# application/eshop  
# application/example  
application/exi exi  
# application/fastinfoset  
# application/fastsoap  
# application/fdt+xml  
# application/fits  
application/font-tdpfr pfr  
# application/framework-attributes+xml  
# application/geo+json  
application/gml+xml gml  
application/gpx+xml gpx  
application/gxf gxf  
# application/gzip  
# application/h224  
# application/held+xml  
# application/http  
application/hyperstudio stk  
# application/ibe-key-request+xml  
# application/ibe-pkg-reply+xml  
# application/ibe-pp-data  
# application/iges  
# application/im-iscomposing+xml  
# application/index  
# application/index.cmd  
# application/index.obj  
# application/index.response  
# application/index.vnd  
application/inkml+xml ink inkml  
# application/iotp  
application/ipfix ipfix  
# application/ipp  
# application/isup  
# application/its+xml  
application/java-archive jar  
application/java-serialized-object ser  
application/java-vm class  
application/javascript js  
application/javascript mjs  
# application/jose  
# application/jose+json  
# application/jrd+json  
application/json json  
# application/json-patch+json  
# application/json-seq

application/jsonml+json jsonml  
# application/jwk+json  
# application/jwk-set+json  
# application/jwt  
# application/kpml-request+xml  
# application/kpml-response+xml  
# application/ld+json  
# application/lgr+xml  
# application/link-format  
# application/load-control+xml  
application/lost+xml lostxml  
# application/lostsync+xml  
# application/lxf  
application/mac-binhex40 hqx  
application/mac-compactpro cpt  
# application/macwriteii  
application/mads+xml mads  
application/marc mrc  
application/marcxml+xml mrcx  
application/mathematica ma nb mb  
application/mathml+xml mathml  
# application/mathml-content+xml  
# application/mathml-presentation+xml  
# application/mbms-associated-procedure-description+xml  
# application/mbms-deregister+xml  
# application/mbms-envelope+xml  
# application/mbms-msk+xml  
# application/mbms-msk-response+xml  
# application/mbms-protection-description+xml  
# application/mbms-reception-report+xml  
# application/mbms-register+xml  
# application/mbms-register-response+xml  
# application/mbms-schedule+xml  
# application/mbms-user-service-description+xml  
application/mbox mbox  
# application/media-policy-dataset+xml  
# application/media\_control+xml  
application/mediaservercontrol+xml mscml  
# application/merge-patch+json  
application/metalink+xml metalink  
application/metalink4+xml meta4  
application/mets+xml mets  
# application/mf4  
# application/mikey  
application/mods+xml mods  
# application/moss-keys  
# application/moss-signature  
# application/mosskey-data

# application/mosskey-request  
application/mp21 m21 mp21  
application/mp4 mp4s  
# application/mpeg4-generic  
# application/mpeg4-iod  
# application/mpeg4-iod-xmt  
# application/mrb-consumer+xml  
# application/mrb-publish+xml  
# application/msc-ivr+xml  
# application/msc-mixer+xml  
application/msword doc dot  
application/mxf mxf  
# application/nasdata  
# application/news-checkgroups  
# application/news-groupinfo  
# application/news-transmission  
# application/nlsml+xml  
# application/nss  
# application/ocsp-request  
# application/ocsp-response  
application/octet-stream bin dms lrf mar so dist distz pkg bpk dump elc deploy  
application/oda oda  
# application/odx  
application/oebps-package+xml opf  
application/ogg ogx  
application/omdoc+xml omdoc  
application/onenote onetoc onetoc2 onetmp onepkg  
application/oxps oxps  
# application/p2p-overlay+xml  
# application/parityfec  
application/patch-ops-error+xml xer  
application/pdf pdf  
# application/pdx  
application/pgp-encrypted pgp  
# application/pgp-keys  
application/pgp-signature asc sig  
application/pics-rules prf  
# application/pidf+xml  
# application/pidf-diff+xml  
application/pkcs10 p10  
# application/pkcs12  
application/pkcs7-mime p7m p7c  
application/pkcs7-signature p7s  
application/pkcs8 p8  
application/pkix-attr-cert ac  
application/pkix-cert cer  
application/pkix-crl crl  
application/pkix-pkipath pkipath

application/pkixcmp pki  
application/pls+xml pls  
# application/poc-settings+xml  
application/postscript ai eps ps  
# application/ppsp-tracker+json  
# application/problem+json  
# application/problem+xml  
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# application/prs.plucker  
# application/prs.rdf+xml-crypt  
# application/prs.xsf+xml  
application/pskc+xml pskcxml  
# application/qsig  
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# application/rdap+json  
application/rdf+xml rdf  
application/reginfo+xml rif  
application/relax-ng-compact-syntax rnc  
# application/remote-printing  
# application/reputon+json  
application/resource-lists+xml rl  
application/resource-lists-diff+xml rld  
# application/rfc+xml  
# application/riscos  
# application/rlmi+xml  
application/rls-services+xml rs  
application/rpki-ghostbusters gbr  
application/rpki-manifest mft  
application/rpki-roa roa  
# application/rpki-updown  
application/rsd+xml rsd  
application/rss+xml rss  
application/rtf rtf  
# application/rtploopback  
# application/rtx  
# application/samlassertion+xml  
# application/samlmetadata+xml  
application/sbml+xml sbml  
# application/scaip+xml  
# application/scim+json  
application/scvp-cv-request scq  
application/scvp-cv-response scs  
application/scvp-vp-request spq  
application/scvp-vp-response spp

application/sdp sdp  
# application/sep+xml  
# application/sep-exi  
# application/session-info  
# application/set-payment  
application/set-payment-initiation setpay  
# application/set-registration  
application/set-registration-initiation setreg  
# application/sgml  
# application/sgml-open-catalog  
application/shf+xml shf  
# application/sieve  
# application/simple-filter+xml  
# application/simple-message-summary  
# application/simplesymbolcontainer  
# application/slate  
# application/smil  
application/smil+xml smi smil  
# application/smpite336m  
# application/soap+fastinfoset  
# application/soap+xml  
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application/sparql-results+xml srx  
# application/spirits-event+xml  
# application/sql  
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application/srgs+xml grxml  
application/sru+xml sru  
application/ssdl+xml ssdl  
application/ssml+xml ssml  
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# application/tamp-apex-update-confirm  
# application/tamp-community-update  
# application/tamp-community-update-confirm  
# application/tamp-error  
# application/tamp-sequence-adjust  
# application/tamp-sequence-adjust-confirm  
# application/tamp-status-query  
# application/tamp-status-response  
# application/tamp-update  
# application/tamp-update-confirm  
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application/thraud+xml tfi  
# application/timestamp-query  
# application/timestamp-reply  
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# application/ttml+xml  
# application/tve-trigger

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# application/urc-grpsheet+xml  
# application/urc-ressheet+xml  
# application/urc-targetdesc+xml  
# application/urc-uisocketdesc+xml  
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# application/vcard+xml  
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# application/vnd.desmume.movie  
# application/vnd.dir-bi.plate-dl-nosuffix  
# application/vnd.dm.delegation+xml  
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# application/vnd.dolby.mobile.1  
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# application/vnd.drive+json  
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application/vnd.geospace g3w  
# application/vnd.gerber  
# application/vnd.globalplatform.card-content-mgt  
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# application/vnd.iptc.g2.packageitem+xml  
# application/vnd.iptc.g2.planningitem+xml  
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application/vnd.isac.fcs fcs  
application/vnd.jam jam  
# application/vnd.japannet-directory-service  
# application/vnd.japannet-jpnstore-wakeup  
# application/vnd.japannet-payment-wakeup  
# application/vnd.japannet-registration  
# application/vnd.japannet-registration-wakeup  
# application/vnd.japannet-setstore-wakeup  
# application/vnd.japannet-verification

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# application/vnd.japannet-verification-wakeup
application/vnd.jcp.javame.midlet-rms rms
application/vnd.jsp jisp
application/vnd.joost.joda-archive joda
# application/vnd.jsk.isdn-ngn
application/vnd.kahootz ktz ktr
application/vnd.kde.karbon karbon
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application/vnd.kde.kformula kfo
application/vnd.kde.kivio flw
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application/vnd.lotus-freelance pre
application/vnd.lotus-notes nsf
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application/vnd.lotus-screencam scm
application/vnd.lotus-wordpro lwp
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application/vnd.medcalldata mc1
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# application/vnd.meridian-slideshow
application/vnd.mfer mwf
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# application/vnd.motorola.flexsuite.wem
# application/vnd.motorola.iprm
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# application/vnd.ms-asf
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# application/vnd.oipf.dae.xhtml+xml  
# application/vnd.oipf.mippvcontrolmessage+xml  
# application/vnd.oipf.pae.gem  
# application/vnd.oipf.spdiscovery+xml  
# application/vnd.oipf.spdlist+xml  
# application/vnd.oipf.ueprofile+xml  
# application/vnd.oipf.userprofile+xml  
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# application/vnd.oma-scws-config  
# application/vnd.oma-scws-http-request



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# application/vnd.oma.bcast.smartcard-trigger+xml  
# application/vnd.oma.bcast.sprov+xml  
# application/vnd.oma.bcast.stkm  
# application/vnd.oma.cab-address-book+xml  
# application/vnd.oma.cab-feature-handler+xml  
# application/vnd.oma.cab-pcc+xml  
# application/vnd.oma.cab-subs-invite+xml  
# application/vnd.oma.cab-user-prefs+xml  
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# application/vnd.oma.drm.risd+xml  
# application/vnd.oma.group-usage-list+xml  
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# application/vnd.oma.lwm2m+tlv  
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# application/vnd.oma.poc.optimized-progress-report+xml  
# application/vnd.oma.push  
# application/vnd.oma.scidm.messages+xml  
# application/vnd.oma.xcap-directory+xml  
# application/vnd.omads-email+xml  
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# application/watcherinfo+xml  
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# application/whoispp-response  
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application/winhelp hlp  
# application/wita  
# application/wordperfect5.1  
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application/wspolicy+xml wspolicy  
application/x-7z-compressed 7z  
application/x-abiword abw  
application/x-ace-compressed ace  
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application/x-authorware-map aam  
application/x-authorware-seg aas  
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application/x-bittorrent torrent  
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application/x-bzip2 bz2 boz  
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application/x-chat chat  
application/x-chess-pgn pgn  
# application/x-compress  
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application/x-cpio cpio  
application/x-csh csh  
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application/x-dvi dvi  
application/x-envoy evy  
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application/x-font-snf snf  
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application/x-shar shar  
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application/x-stuffitx sitx  
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application/xv+xml mxml xhvm xvm xvm  
application/yang yang  
application/yin+xml yin  
application/zip zip  
# application/zlib  
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# audio/32kadpcm  
# audio/3gpp  
# audio/3gpp2  
# audio/ac3  
audio/adpcm adp  
# audio/amr  
# audio/amr-wb  
# audio/amr-wb+  
# audio/aptx  
# audio/asc  
# audio/atrac-advanced-lossless  
# audio/atrac-x  
# audio/atrac3  
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# audio/evrcb0  
# audio/evrcb1  
# audio/evrcnw

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# audio/gsm-hr-08  
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# audio/l16  
# audio/l20  
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# audio/mp4a-latm  
# audio/mpa  
# audio/mpa-robust  
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# audio/mpeg4-generic  
# audio/musepack  
audio/ogg oga ogg spx  
# audio/opus  
# audio/parityfec  
# audio/pcma  
# audio/pcma-wb  
# audio/pcmu

# audio/pcmu-wb  
# audio/prs.sid  
# audio/qcelp  
# audio/raptorfec  
# audio/red  
# audio/rtp-enc-aescm128  
# audio/rtp-midi  
# audio/rtploopback  
# audio/rtx  
audio/s3m s3m  
audio/silk sil  
# audio/smv  
# audio/smv-qcp  
# audio/smv0  
# audio/sp-midi  
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# audio/t140c  
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# audio/tone  
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# audio/vnd.celp  
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# audio/vnd.cns.anp1  
# audio/vnd.cns.infl  
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# audio/vnd.dolby.pl2z  
# audio/vnd.dolby.pulse.1  
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audio/vnd.dts.hd dtshd  
# audio/vnd.dvb.file  
# audio/vnd.everad.plj

# audio/vnd.hns.audio  
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# audio/vnd.vmx.cvsd  
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# audio/x-tta  
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chemical/x-cmdf cmdf  
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chemical/x-csml csml  
# chemical/x-pdb  
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font/otf otf  
# font/sfnt  
font/ttf ttf  
font/woff woff  
font/woff2 woff2  
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image/cgm cgm  
# image/dicom-rle  
# image/emf  
# image/example

# image/fits  
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# image/jls  
# image/jp2  
image/jpeg jpeg jpg jpe  
# image/jpm  
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# image/naplps  
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# image/prs.pti  
# image/pwg-raster  
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# image/vnd.cns.inf2  
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image/vnd.djvu djvu djv  
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image/vnd.wap.wbmp wbmp

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# image/vnd.zbrush.pcx  
image/webp webp  
# image/wmf  
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image/x-cmu-raster ras  
image/x-cmx cmx  
image/x-freehand fh fhc fh4 fh5 fh7  
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image/x-mrsid-image sid  
image/x-pcx pcx  
image/x-pict pic pct  
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image/x-xwindowdump xwd  
# message/cpim  
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# message/disposition-notification  
# message/example  
# message/external-body  
# message/feedback-report  
# message/global  
# message/global-delivery-status  
# message/global-disposition-notification  
# message/global-headers  
# message/http  
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# message/news  
# message/partial  
message/rfc822 eml mime  
# message/s-http  
# message/sip  
# message/sipfrag  
# message/tracking-status  
# message/vnd.si.simp  
# message/vnd.wfa.wsc  
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# model/gltf+json  
model/iges igs iges  
model/mesh msh mesh silo  
model/vnd.collada+xml dae  
model/vnd.dwf dwf



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# model/vnd.gs-gdl  
# model/vnd.gs.gdl  
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# model/vnd.moml+xml  
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# model/vnd.valve.source.compiled-map  
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model/vrml wrl vrml  
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# model/x3d+fastinfoset  
model/x3d+vrml x3dv x3dvz  
model/x3d+xml x3d x3dz  
# model/x3d-vrml  
# multipart/alternative  
# multipart/appledouble  
# multipart/byteranges  
# multipart/digest  
# multipart/encrypted  
# multipart/example  
# multipart/form-data  
# multipart/header-set  
# multipart/mixed  
# multipart/parallel  
# multipart/related  
# multipart/report  
# multipart/signed  
# multipart/voice-message  
# multipart/x-mixed-replace  
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# text/csv-schema  
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# text/rfc822-headers  
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text/troff t tr roff man me ms  
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# text/vnd.a  
# text/vnd.abc  
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# text/vnd.esmertec.theme-descriptor  
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text/x-c c cc cxx cpp h hh dic
text/x-fortran f for f77 f90
text/x-java-source java
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# video/3gpp-tt
video/3gpp2 3g2
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# video/bt656
# video/celb
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# video/encaprtsp
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video/h261 h261
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# video/h263-2000
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# video/h264-rcdo
# video/h264-svc
# video/h265
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# video/jpeg2000
video/jpm jpm jpgm
video/mj2 mj2 mjp2
# video/mp1s
```

# video/mp2p  
# video/mp2t  
video/mp4 mp4 mp4v mpg4  
# video/mp4v-es  
video/mpeg mpeg mpg mpe m1v m2v  
# video/mpeg4-generic  
# video/mpv  
# video/nv  
video/ogg ogv  
# video/parityfec  
# video/pointer  
video/quicktime qt mov  
# video/raptorfec  
# video/raw  
# video/rtp-enc-aescm128  
# video/rtploopback  
# video/rtx  
# video/smppte292m  
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# video/vc1  
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video/vnd.dece.mobile uvm uvvm  
# video/vnd.dece.mp4  
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# video/vnd.directv.mpeg  
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# video/vnd.radgamettools.smacker

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video/vnd.vivo viv  
# video/vp8  
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video/x-f4v f4v  
video/x-fli fli  
video/x-flv flv  
video/x-m4v m4v  
video/x-matroska mkv mk3d mks  
video/x-mng mng  
video/x-ms-asf asf asx  
video/x-ms-vob vob  
video/x-ms-wm wm  
video/x-ms-wmv wmv  
video/x-ms-wmx wmx  
video/x-ms-wvx wvx  
video/x-msvideo avi  
video/x-sgi-movie movie  
video/x-smv smv  
x-conference/x-cooltalk ice

Found in path(s):

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/META-INF/http/mime.types

No license file was found, but licenses were detected in source scan.

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\*/

Found in path(s):

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-

jar/io/micronaut/http/CaseInsensitiveMutableHttpHeaders.java

No license file was found, but licenses were detected in source scan.

```
/*
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 * you may not use this file except in compliance with the License.
 * You may obtain a copy of the License at
 *
 * https://www.apache.org/licenses/LICENSE-2.0
 *
 * Unless required by applicable law or agreed to in writing, software
 * distributed under the License is distributed on an "AS IS" BASIS,
 * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
 * See the License for the specific language governing permissions and
 * limitations under the License.
 */
```

Found in path(s):

```
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/filter/ServerFilterChain.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/hateoas/DefaultLink.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/bind/binders/BodyArgumentBinder.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/filter/FilterOrderProvider.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/multipart/FileUpload.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/simple/cookies/SimpleCookieFactory.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/bind/binders/TypedRequestArgumentBinder.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/hateoas/JsonError.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/uri/package-info.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/annotation/FilterMatcher.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/annotation/Options.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/annotation/Filter.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/annotation/CustomHttpMethod.java
* /opt/cola/permits/1743477383_1689201796.2976923/0/micronaut-http-3-9-4-sources-
jar/io/micronaut/http/hateoas/package-info.java
```

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/bind/binders/HeaderAnnotationBinder.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/uri/UriMatchTemplate.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/codec/package-info.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/uri/UriMatchInfo.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/annotation/package-info.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/annotation/UriMapping.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/HttpHeaders.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/filter/ClientFilterChain.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/filter/HttpClientFilter.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/simple/package-info.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/simple/SimpleHttpParameters.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/ssl/ClientAuthentication.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/util/HttpUtil.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/bind/binders/NonBlockingBodyArgumentBinder.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/cookie/CookieConfiguration.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/context/ClientContextPathProvider.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/resource/package-info.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/hateoas/AbstractResource.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/HttpResponse.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/exceptions/UriSyntaxException.java

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\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/ssl/ServerSslConfiguration.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/bind/binders/PartAnnotationBinder.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/hateoas/GenericResource.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/ssl/ClientSslConfiguration.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/util/HttpHeadersUtil.java

\* /opt/cola/permits/1743477383\_1689201796.2976923/0/micronaut-http-3-9-4-sources-jar/io/micronaut/http/MediaTypeConvertersRegistrar.java

# 1.130 error\_prone\_annotations 2.18.0

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\* /opt/cola/permits/1606613656\_1679417956.422988/0/error-prone-annotations-2-18-0-1-jar/META-INF/maven/com.google.errorprone/error\_prone\_annotations/pom.xml

# 1.131 log4j-slf4j-impl 2.19.0

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

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

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

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

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

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

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

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

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

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

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

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

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

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/AbstractNetwork.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/EdgesConnecting.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/GraphBuilder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/UndirectedMultiNetworkConnections.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/StandardMutableNetwork.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/StandardNetwork.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CollectCollectors.java

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

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

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*/
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```

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Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ImmutableSortedAsList.java
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableBiMapFauxverideShim.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/package-info.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingMapEntry.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Sets.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingMultiset.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/MapDifference.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EnumBiMap.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Java8Compatibility.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/ToDoubleRounder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/math/BigDecimalMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/Java8Compatibility.java  
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jar/com/google/common/primitives/Platform.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/Internal.java  
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jar/com/google/common/hash/LittleEndianByteArray.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AsyncCallable.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/FarmHashFingerprint64.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/io/ReaderInputStream.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/hash/MacHashFunction.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/collect/ConsumingQueueIterator.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/CombinedFuture.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Platform.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/InterruptibleTask.java
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/AggregateFutureState.java
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jar/com/google/common/collect/JdkBackedImmutableMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/JdkBackedImmutableSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/ImmutableSupplier.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ExecutionSequencer.java

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

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

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

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

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

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

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

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

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/AbstractLoadingCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/package-info.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheBuilderSpec.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Optional.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Ticker.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Present.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Murmur3\_32HashFunction.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalListeners.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/PairwiseEquivalence.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Absent.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Hasher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashCode.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/MediaType.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractStreamingHasher.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Uninterruptibles.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Murmur3\_128HashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Enums.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/MessageDigestHashFunction.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/RemovalListener.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/package-info.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/AsyncFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/Cache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/BloomFilterStrategies.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/AbstractCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ExecutionError.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/IntMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashingOutputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EmptyContiguousSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/DoubleMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Funnels.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/CacheLoader.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/AbstractNonStreamingHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/Funnel.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/ForwardingCache.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/LongMath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/DoubleUtils.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractSortedMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/cache/LoadingCache.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/ParseRequest.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/FutureCallback.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/BloomFilter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashFunction.java

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

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```
*/
/**
 * Returns an array containing all of the elements in the specified collection. This method
 * returns the elements in the order they are returned by the collection's iterator. The returned
 * array is "safe" in that no references to it are maintained by the collection. The caller is
 * thus free to modify the returned array.
 *
 * <p>This method assumes that the collection size doesn't change while the method is running.
 *
 * <p>TODO(kevinb): support concurrently modified collections?
 *
 * @param c the collection for which to return an array of elements
 */
```

Found in path(s):

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

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

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

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```
/*
```



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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/Dispatcher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/MoreObjects.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenerCallQueue.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/Quantiles.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/Subscriber.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ServiceManagerBridge.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Java8Usage.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/TypeToken.java

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

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

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

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

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

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

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

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

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

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

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

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/CaseFormat.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/CharEscaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/PatternFilenameFilter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/CharEscaperBuilder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/TimeoutFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ImmediateFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SimpleTimeLimiter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/annotations/VisibleForTesting.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/HashingInputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/VerifyException.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/eventbus/SubscriberExceptionHandler.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractTable.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/Runnables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Verify.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Utf8.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/JdkBackedImmutableBiMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/IndexedImmutableSet.java  
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- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredKeyListMultimap.java
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- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TransformedListIterator.java
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- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CompactHashMap.java
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- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingDeque.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeTraverser.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CompactHashSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingMultiset.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RangeMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeRangeMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/DescendingImmutableSortedSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EvictingQueue.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingNavigableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ForwardingImmutableSet.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java

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\* Holder for extra methods of {`@code Objects`} only in web. Intended to be empty for regular version.

\*/

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jar/com/google/common/collect/ImmutableMapEntry.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/MultimapBuilder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/MoreFiles.java  
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- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableEntry.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Tables.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Serialization.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/StandardTable.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableListMultimap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/PeekingIterator.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableMap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMultiset.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/SingletonImmutableBiMap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/RegularImmutableBiMap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableBiMap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableSortedSet.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapValues.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Collections2.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapEntrySet.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableCollection.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Table.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/EmptyImmutableListMultimap.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/CollectPreconditions.java
- \* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/HashBasedTable.java

\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Platform.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/TreeBasedTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/StandardRowSortedTable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/Range.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/UnmodifiableIterator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/ImmutableMapKeySet.java  
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\* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular  
\* version.

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/LinearTransformation.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharSink.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/hash/LongAddable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SmoothRateLimiter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FilteredKeyMultimap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Parameter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/ByteSink.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/Closer.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/Stats.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/html/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/Element.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/CharSource.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/math/StatsAccumulator.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/package-info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/reflect/MutableTypeToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-

jar/com/google/common/hash/SipHashFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/reflect/TypeCapture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/cache/LongAddable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/ByteSource.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/reflect/Invokable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/RateLimiter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/base/StandardSystemProperty.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/AbstractByteHasher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/reflect/AbstractInvocationHandler.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/BaseEncoding.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/reflect/TypeToInstanceMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/math/PairedStats.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/cache/LongAddables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ListenableScheduledFuture.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/LongAddables.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/CartesianList.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/FileWriteMode.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/reflect/ClassPath.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/xml/package-  
info.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/collect/ImmutableRangeMap.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/util/concurrent/ServiceManager.java  
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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/BaseGraph.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/graph/Traverser.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ClosingFuture.java

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

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*/
/*
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
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jar/com/google/common/collect/Hashing.java
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 * the License.
 */
/**
 * Outer class that exists solely to let us write { @code Partially.GwtIncompatible } instead of plain
 * { @code GwtIncompatible }. This is more accurate for { @link Futures#catching }, which is available
 * under GWT but with a slightly different signature.
 *
 * <p>We can't use { @code PartiallyGwtIncompatible } because then the GWT compiler wouldn't recognize
 * it as a { @code GwtIncompatible } annotation. And for { @code Futures.catching }, we need the GWT
 * compiler to autostrip the normal server method in order to expose the special, inherited GWT
 * version.
 */
```

Found in path(s):

```
* /opt/cola/permits/1119092615_1608716259.54/0/guava-30-1-jre-sources-1-
jar/com/google/common/util/concurrent/Partially.java
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jar/com/google/common/collect/TopKSelector.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/ImmutableGraph.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/SuccessorsFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/MutableNetwork.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/ImmutableNetwork.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/Graphs.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/InsecureRecursiveDeleteException.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/Graph.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/io/RecursiveDeleteOption.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/PredecessorsFunction.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/MutableGraph.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/graph/Network.java

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jar/com/google/common/hash/LongAdder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/cache/LongAdder.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/cache/Striped64.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-  
jar/com/google/common/hash/Striped64.java

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\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/FileBackedOutputStream.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Shorts.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Doubles.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/SequentialExecutor.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/CharMatcher.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/collect/FluentIterable.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Booleans.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Chars.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/net/PercentEscaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Joiner.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Floats.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/util/concurrent/ListenableFutureTask.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/escape/UnicodeEscaper.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Bytes.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/io/MultiReader.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Stopwatch.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/base/Converter.java  
\* /opt/cola/permits/1119092615\_1608716259.54/0/guava-30-1-jre-sources-1-jar/com/google/common/primitives/Longs.java

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

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

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

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

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

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

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

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

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

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/\*\*

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

\* key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy

\* version.

\*

\* @throws UnsupportedOperationException always

```
* @deprecated <b>Pass a key of type { @code Comparable } to use { @link
*   ImmutableSortedMap#of(Comparable, Object)}.</b>
*/
```

Found in path(s):

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

```
*/
```

```
/**
```

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

```
*/
```

Found in path(s):

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

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## 1.134 alpine-keys 2.4-r1

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## 1.135 jackson-annotations 2.14.2

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jar/com/eclipsesource/json/JsonString.java
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jar/com/eclipsesource/json/WriterConfig.java
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	GL/ glxext.h	Khronos
	GL/ wglxext.h	Khronos
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include/GL/wglxext.h :

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## Bert Belder: wepoll v 1.5.8

### wepoll License

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wepoll - epoll for Windows

<https://github.com/piscisaureus/wepoll>

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<meta name="description" content="Home page of The Apache Software Foundation">

<link rel="apple-touch-icon" sizes="57x57" href="/favicons/apple-touch-icon-57x57.png">
<link rel="apple-touch-icon" sizes="60x60" href="/favicons/apple-touch-icon-60x60.png">
<link rel="apple-touch-icon" sizes="72x72" href="/favicons/apple-touch-icon-72x72.png">
<link rel="apple-touch-icon" sizes="76x76" href="/favicons/apple-touch-icon-76x76.png">
<link rel="apple-touch-icon" sizes="114x114" href="/favicons/apple-touch-icon-114x114.png">
<link rel="apple-touch-icon" sizes="120x120" href="/favicons/apple-touch-icon-120x120.png">
<link rel="apple-touch-icon" sizes="144x144" href="/favicons/apple-touch-icon-144x144.png">
<link rel="apple-touch-icon" sizes="152x152" href="/favicons/apple-touch-icon-152x152.png">
<link rel="apple-touch-icon" sizes="180x180" href="/favicons/apple-touch-icon-180x180.png">
<link rel="icon" type="image/png" href="/favicons/favicon-32x32.png" sizes="32x32">
<link rel="icon" type="image/png" href="/favicons/favicon-194x194.png" sizes="194x194">
<link rel="icon" type="image/png" href="/favicons/favicon-96x96.png" sizes="96x96">
<link rel="icon" type="image/png" href="/favicons/android-chrome-192x192.png" sizes="192x192">
<link rel="icon" type="image/png" href="/favicons/favicon-16x16.png" sizes="16x16">
<link rel="manifest" href="/favicons/manifest.json">
<link rel="shortcut icon" href="/favicons/favicon.ico">
<meta name="msapplication-TileColor" content="#603cba">
<meta name="msapplication-TileImage" content="/favicons/mstile-144x144.png">
<meta name="msapplication-config" content="/favicons/browserconfig.xml">
```

```
<meta name="theme-color" content="#303284">
```

```
<title>Apache License, Version 2.0</title>
```

```
<link href='https://fonts.googleapis.com/css?family=Source+Sans+Pro:400,700%7cDroid+Serif:400,700'  
rel='stylesheet' type='text/css'>
```

```
<link href="/css/min.bootstrap.css" rel="stylesheet">
```

```
<link href="/css/styles.css" rel="stylesheet">
```

```
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CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing  
permissions and limitations under the License. -->
```

```
</head>
```

```
<body>
```

```
<!-- Navigation -->
```

```
<header>
```

```
<nav class="navbar navbar-default navbar-fixed-top">
```

```
<div class="container">
```

```
<div class="navbar-header">
```

```
<button class="navbar-toggle" type="button" data-toggle="collapse" data-target="#mainnav-collapse">
```

```
<span class="sr-only">Toggle navigation</span>
```

```
<span class="icon-bar"></span>
```

```
<span class="icon-bar"></span>
```

```
<span class="icon-bar"></span>
```

```
</button>
```

```
<a href="#" class="navbar-brand"><span class="glyphicon glyphicon-home"></span></a>
```

```
</div>
```

```
<div class="collapse navbar-collapse" id="mainnav-collapse">
```

```
<div style="line-height:20px; padding-top:5px; float:left"><a href="/">Home</a>&nbsp;&raquo;&nbsp;&nbsp;<a  
href="/licenses/">Licenses</a></div>
```

```
<ul class="nav navbar-nav navbar-right">
```

```
<li class="dropdown">
```

```
<a href="#" class="dropdown-toggle" data-toggle="dropdown">About <span class="caret"></span></a>
```

```
<ul class="dropdown-menu" role="menu">
```

```
<li><a href="/foundation">Overview</a></li>
```

```
<li><a href="/foundation/members.html">Members</a></li>
```

```
<li><a href="/foundation/how-it-works.html">Process</a></li>
```

```
<li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
```

```
<li><a href="/foundation/glossary.html">Glossary</a></li>
```

```
<li><a href="/foundation/preFAQ.html">FAQ</a></li>
```

```
<li><a href="/foundation/contact.html ">Contact</a></li>
```



```

    </ul>
  </li>
</li><a href="/index.html#projects-list">Projects</a></li>
<li class="dropdown">
  <a href="#" class="dropdown-toggle" data-toggle="dropdown">People <span class="caret"></span></a>
  <ul class="dropdown-menu" role="menu">
<li><a href="http://people.apache.org/">Overview</a></li>
<li><a href="http://people.apache.org/committer-index.html">Committers</a></li>
<li><a href="/foundation/how-it-works.html#meritocracy">Meritocracy</a></li>
<li><a href="/foundation/how-it-works.html#roles">Roles</a></li>
<li><a href="http://planet.apache.org/">Planet Apache</a></li>
  </ul>
</li>
<li class="dropdown">
  <a href="#" class="dropdown-toggle" data-toggle="dropdown">Get Involved <span
class="caret"></span></a>
  <ul class="dropdown-menu" role="menu">
<li><a href="/foundation/getinvolved.html">Overview</a></li>
<li><a href="http://community.apache.org/">Community Development</a></li>
  <li><a href="http://helpwanted.apache.org/">Help Wanted</a></li>
<li><a href="http://www.apachecon.com/">ApacheCon</a></li>
  </ul>
</li>
<li><a href="/dyn/closer.cgi">Download</a></li>
<li class="dropdown">
  <a href="#" class="dropdown-toggle" data-toggle="dropdown">Support Apache <span
class="caret"></span></a>
  <ul class="dropdown-menu" role="menu">
<li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
<li><a href="/foundation/contributing.html">Donations</a></li>
<li><a href="/foundation/buy_stuff.html">Buy Stuff</a></li>
<li><a href="/foundation/thanks.html">Thanks</a></li>
  </ul>
</li>
</ul>
</div>
</nav>
</header>
<!-- / Navigation -->
<div class="container">
<div class="row">
<div class="col-md-9 col-sm-8 col-xs-12">
  
</div>
<div class="col-md-3 col-sm-4 col-xs-12">
  <div class="input-group" style="margin-bottom: 5px;">
<script>

```

```

(function() {
  var cx = '005703438322411770421:5mgshgrgx2u';
  var gcse = document.createElement('script');
  gcse.type = 'text/javascript';
  gcse.async = true;
  gcse.src = (document.location.protocol == 'https:' ? 'https:' : 'http:') +
    '//cse.google.com/cse.js?cx=' + cx;
  var s = document.getElementsByTagName('script')[0];
  s.parentNode.insertBefore(gcse, s);
})();
</script>
  <gcse:searchbox-only></gcse:searchbox-only>
</div>
  <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/governance/">The Apache Way</a>
  <a role="button" class="btn btn-block btn-default btn-xs"
href="https://community.apache.org/contributors/">Contribute</a>
  <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/thanks.html">ASF Sponsors</a>
</div>
</div>
</div>
<div class="container"><style type="text/css">
/* The following code is added by mdx_elementid.py
  It was originally lifted from http://subversion.apache.org/style/site.css */
/*
* Hide class="elementid-permalink", except when an enclosing heading
* has the :hover property.
*/
.headerlink, .elementid-permalink {
  visibility: hidden;
}
h2:hover > .headerlink, h3:hover > .headerlink, h1:hover > .headerlink, h6:hover > .headerlink, h4:hover >
.headerlink, h5:hover > .headerlink, dt:hover > .elementid-permalink { visibility: visible }</style>
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```

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```
<div class="codehilite"><pre>Copyright [yyyy] [name of copyright owner]
```

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```
</pre></div></div>
```

```
<!-- Footer -->
```

```
<footer class="bg-primary">
```

```
<div class="container">
```

```
<div class="row">
```

```
<br />
```

```
<div class="col-sm-1">
```

```
</div>
```

```
<div class="col-sm-2">
```

```
<h5 class="white">Community</h5>
```

```
<ul class="list-unstyled white" role="menu">
```

```
<li><a href="http://community.apache.org/">Overview</a></li>
```

```
<li><a href="/foundation/conferences.html">Conferences</a></li>
```

```
<li><a href="http://community.apache.org/gsoc.html">Summer of Code</a></li>
```

```
<li><a href="http://community.apache.org/newcomers/">Getting Started</a></li>
```

```
<li><a href="/foundation/how-it-works.html">The Apache Way</a></li>
```

```
<li><a href="/travel/">Travel Assistance</a></li>
```

```
<li><a href="/foundation/getinvolved.html">Get Involved</a></li>
```

```
<li><a href="http://community.apache.org/newbiefaq.html">Community FAQ</a></li>
```

```
</ul>
```

```
</div>
```

```
<div class="col-sm-2">
```

```
<h5 class="white">Innovation</h5>
```

```
<ul class="list-unstyled white" role="menu">
```

```
<li><a href="http://incubator.apache.org/">Incubator</a></li>
```

```
<li><a href="http://labs.apache.org/">Labs</a></li>
```

```
<li><a href="/licenses/">Licensing</a></li>
```

```
<li><a href="/foundation/license-faq.html">Licensing FAQ</a></li>
```

```
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Tech Operations</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/dev/">Developer Information</a></li>
<li><a href="/dev/infrastructure.html">Infrastructure</a></li>
<li><a href="/security/">Security</a></li>
<li><a href="http://status.apache.org">Status</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Press</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/press/">Overview</a></li>
<li><a href="https://blogs.apache.org/">ASF News</a></li>
<li><a href="https://blogs.apache.org/foundation/">Announcements</a></li>
<li><a href="https://twitter.com/TheASF">Twitter Feed</a></li>
<li><a href="/press/#contact">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Legal</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/legal/">Legal Affairs</a></li>
<li><a href="/licenses/">Licenses</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/records/">Public Records</a></li>
<li><a href="/foundation/policies/privacy.html">Privacy Policy</a></li>
<li><a href="/licenses/exports/">Export Information</a></li>
<li><a href="/foundation/license-faq.html">License/Distribution FAQ</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-1">
</div>
```

```
</div>
<hr class="col-lg-12 hr-white" />
<div class="row">
<div class="col-lg-12">
```

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`</div>`

`</div>`

`</div>`

`</footer>`

`<!-- / Footer -->`

`<script src="/js/jquery-2.1.1.min.js"></script>`

`<script src="/js/bootstrap.js"></script>`

`</body>`

`</html>`

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Upstream-Name: schema-registry

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mkdir /tmp/jars
mkdir /tmp/overrides
cp package-schema-registry/target/kafka-schema-registry-package-<VERSION>-package/share/java/schema-registry/*.jar /tmp/jars/
cp package-kafka-serde-tools/target/kafka-serde-tools-package-<VERSION>-package/share/java/kafka-serde-tools/*.jar /tmp/jars/
cd <LICENSE_TOOL_PATH>
./bin/run_license_job.bash -i /tmp/jars -l <SRC_PATH>/licenses -n <SRC_PATH>/notices -h <SRC_PATH>/licenses-and-notices.html -o /tmp/overrides
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li {display: block;}
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<b>1.4. &ldquo;Executable&rdquo;</b> means the Covered Software in any form other than Source Code.

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</body>

</html>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"

"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />

<title>Untitled Document</title>

</head>

<body>

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">

<HTML>

<!-- @page { margin: 0.79in } P { margin-bottom: 0.08in } H1 { margin-top: 0in; margin-bottom: 0.17in; widows: 0; orphans: 0 } H1.western { font-family: "Times New Roman", serif; font-size: 12pt; font-weight: normal } H1.cjk { font-family: "Andale Sans UI"; font-size: 12pt; font-weight: normal } H1.cml { font-family: "Tahoma"; font-size: 12pt; font-weight: normal } -->

<BODY DIR="LTR">

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signature of Ty Coon, 1 April 1989

Ty Coon, President of Vice

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<li style="background-color: yellow;">

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</li>

<p><br />

<br />

</p>

<p><br />

</p>

</body>

</html>

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# Jackson JSON processor

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

## Licensing

Jackson core and extension components may be licensed under different licenses. To find the details that apply to this artifact see the accompanying LICENSE file. For more information, including possible other licensing options, contact FasterXML.com (<http://fasterxml.com>).

## Credits

A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.



This product includes software developed at  
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```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <meta name="description" content="Home page of The Apache Software Foundation">

  <link rel="apple-touch-icon" sizes="57x57" href="/favicons/apple-touch-icon-57x57.png">
  <link rel="apple-touch-icon" sizes="60x60" href="/favicons/apple-touch-icon-60x60.png">
  <link rel="apple-touch-icon" sizes="72x72" href="/favicons/apple-touch-icon-72x72.png">
  <link rel="apple-touch-icon" sizes="76x76" href="/favicons/apple-touch-icon-76x76.png">
  <link rel="apple-touch-icon" sizes="114x114" href="/favicons/apple-touch-icon-114x114.png">
  <link rel="apple-touch-icon" sizes="120x120" href="/favicons/apple-touch-icon-120x120.png">
  <link rel="apple-touch-icon" sizes="144x144" href="/favicons/apple-touch-icon-144x144.png">
  <link rel="apple-touch-icon" sizes="152x152" href="/favicons/apple-touch-icon-152x152.png">
  <link rel="apple-touch-icon" sizes="180x180" href="/favicons/apple-touch-icon-180x180.png">
  <link rel="icon" type="image/png" href="/favicons/favicon-32x32.png" sizes="32x32">
  <link rel="icon" type="image/png" href="/favicons/favicon-194x194.png" sizes="194x194">
  <link rel="icon" type="image/png" href="/favicons/favicon-96x96.png" sizes="96x96">
  <link rel="icon" type="image/png" href="/favicons/android-chrome-192x192.png" sizes="192x192">
  <link rel="icon" type="image/png" href="/favicons/favicon-16x16.png" sizes="16x16">
  <link rel="manifest" href="/favicons/manifest.json">
  <link rel="shortcut icon" href="/favicons/favicon.ico">
  <meta name="msapplication-TileColor" content="#603cba">
  <meta name="msapplication-TileImage" content="/favicons/mstile-144x144.png">
  <meta name="msapplication-config" content="/favicons/browserconfig.xml">
  <meta name="theme-color" content="#303284">

  <title>Licenses</title>
  <link href='https://fonts.googleapis.com/css?family=Source+Sans+Pro:400,700%7cDroid+Serif:400,700'
rel='stylesheet' type='text/css'>
  <link href="/css/min.bootstrap.css" rel="stylesheet">
  <link href="/css/styles.css" rel="stylesheet">
```

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permissions and limitations under the License. -->

```
</head>
```

```
<body>
```

```
<!-- Navigation -->
```

```
<header>
```

```
<nav class="navbar navbar-default navbar-fixed-top">
```

```
<div class="container">
```

```
<div class="navbar-header">
```

```
<button class="navbar-toggle" type="button" data-toggle="collapse" data-target="#mainnav-collapse">
```

```
<span class="sr-only">Toggle navigation</span>
```

```
<span class="icon-bar"></span>
```

```
<span class="icon-bar"></span>
```

```
<span class="icon-bar"></span>
```

```
</button>
```

```
<a href="#" class="navbar-brand"><span class="glyphicon glyphicon-home"></span></a>
```

```
</div>
```

```
<div class="collapse navbar-collapse" id="mainnav-collapse">
```

```
<div style="line-height:20px; padding-top:5px; float:left"><a href="/">Home</a>&nbsp;&raquo;&nbsp;&lt;a href="/licenses/">Licenses</a></div>
```

```
<ul class="nav navbar-nav navbar-right">
```

```
<li class="dropdown">
```

```
<a href="#" class="dropdown-toggle" data-toggle="dropdown">About <span class="caret"></span></a>
```

```
<ul class="dropdown-menu" role="menu">
```

```
<li><a href="/foundation">Overview</a></li>
```

```
<li><a href="/foundation/members.html">Members</a></li>
```

```
<li><a href="/foundation/how-it-works.html">Process</a></li>
```

```
<li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
```

```
<li><a href="/foundation/glossary.html">Glossary</a></li>
```

```
<li><a href="/foundation/preFAQ.html">FAQ</a></li>
```

```
<li><a href="/foundation/contact.html">Contact</a></li>
```

```
</ul>
```

```
</li>
```

```
<li><a href="/index.html#projects-list">Projects</a></li>
```

```
<li class="dropdown">
```

```
<a href="#" class="dropdown-toggle" data-toggle="dropdown">People <span class="caret"></span></a>
```

```
<ul class="dropdown-menu" role="menu">
```

```
<li><a href="http://people.apache.org/">Overview</a></li>
```

```
<li><a href="http://people.apache.org/committer-index.html">Committers</a></li>
```

```
<li><a href="/foundation/how-it-works.html#meritocracy">Meritocracy</a></li>
```

```
<li><a href="/foundation/how-it-works.html#roles">Roles</a></li>
```

```
<li><a href="http://planet.apache.org/">Planet Apache</a></li>
```

```
</ul>
```

```
</li>
```

```
<li class="dropdown">
```

```
<a href="#" class="dropdown-toggle" data-toggle="dropdown">Get Involved <span class="caret"></span></a>
```

```

        <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation/getinvolved.html">Overview</a></li>
            <li><a href="http://community.apache.org/">Community Development</a></li>
                <li><a href="http://helpwanted.apache.org/">Help Wanted</a></li>
            <li><a href="http://www.apachecon.com/">ApacheCon</a></li>
        </ul>
    </li>
    <li><a href="/dyn/closer.cgi">Download</a></li>
    <li class="dropdown">
        <a href="#" class="dropdown-toggle" data-toggle="dropdown">Support Apache <span
class="caret"></span></a>
        <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
            <li><a href="/foundation/contributing.html">Donations</a></li>
            <li><a href="/foundation/buy_stuff.html">Buy Stuff</a></li>
            <li><a href="/foundation/thanks.html">Thanks</a></li>
        </ul>
    </li>
</ul>
</div>
</div>
</nav>
</header>
<!-- / Navigation -->
<div class="container">
    <div class="row">
        <div class="col-md-9 col-sm-8 col-xs-12">
            
        </div>
        <div class="col-md-3 col-sm-4 col-xs-12">
            <div class="input-group" style="margin-bottom: 5px;">
                <script>
(function() {
var cx = '005703438322411770421:5mgshgrgx2u';
var gcse = document.createElement('script');
gcse.type = 'text/javascript';
gcse.async = true;
gcse.src = (document.location.protocol == 'https:' ? 'https:' : 'http:') +
    '/cse.google.com/cse.js?cx=' + cx;
var s = document.getElementsByTagName('script')[0];
s.parentNode.insertBefore(gcse, s);
})();
</script>
    <gcse:searchbox-only></gcse:searchbox-only>
</div>
    <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/governance/">The Apache Way</a>
    <a role="button" class="btn btn-block btn-default btn-xs"
href="https://community.apache.org/contributors/">Contribute</a>

```

```

    <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/thanks.html">ASF Sponsors</a>
  </div>
</div>
</div>
<div class="container"><style type="text/css">
/* The following code is added by mdx_elementid.py
   It was originally lifted from http://subversion.apache.org/style/site.css */
/*
* Hide class="elementid-permalink", except when an enclosing heading
* has the :hover property.
*/
.headerlink, .elementid-permalink {
  visibility: hidden;
}
h2:hover > .headerlink, h3:hover > .headerlink, h1:hover > .headerlink, h6:hover > .headerlink, h4:hover >
.headerlink, h5:hover > .headerlink, dt:hover > .elementid-permalink { visibility: visible }</style>
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<p>The result is a license that is supposed to be compatible with other open
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```

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Please send only one document per email.</p>

<p>If you prefer to sign electronically, please fill the form, save it locally (e.g. icla.pdf), and sign the file by preparing a detached PGP signature. For example,</p>

<blockquote>

<p>gpg --armor --detach-sign icla.pdf</p>

</blockquote>

<p>The above will create a file icla.pdf.asc. Send both the file and signature as attachments in the same email to secretary@apache.org. Please send only one document (file plus signature) per email. Please do not submit your public key to Apache. Instead, please upload your public key to pgpkeys.mit.edu. </p>

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## <h1 id="questions">Questions?<a class="headerlink" href="#questions" title="Permanent link">&para;</a></h1>

<p>For answers to frequently asked licensing questions, please consult our <a href="/foundation/license-faq.html">Licensing Frequently Asked Questions</a> page.</p></div>

<!-- Footer -->

<footer class="bg-primary">

<div class="container">

<div class="row">

<br />

```
<div class="col-sm-1">
```

```
</div>
```

```
<div class="col-sm-2">
```

```
  <h5 class="white">Community</h5>
```

```
  <ul class="list-unstyled white" role="menu">
```

```
    <li><a href="http://community.apache.org/">Overview</a></li>
```

```
    <li><a href="/foundation/conferences.html">Conferences</a></li>
```

```
    <li><a href="http://community.apache.org/gsoc.html">Summer of Code</a></li>
```

```
    <li><a href="http://community.apache.org/newcomers/">Getting Started</a></li>
```

```
    <li><a href="/foundation/how-it-works.html">The Apache Way</a></li>
```

```
    <li><a href="/travel/">Travel Assistance</a></li>
```

```
    <li><a href="/foundation/getinvolved.html">Get Involved</a></li>
```

```
    <li><a href="http://community.apache.org/newbiefaq.html">Community FAQ</a></li>
```

```
  </ul>
```

```
</div>
```

```
<div class="col-sm-2">
```

```
  <h5 class="white">Innovation</h5>
```

```
  <ul class="list-unstyled white" role="menu">
```

```
    <li><a href="http://incubator.apache.org/">Incubator</a></li>
```

```
    <li><a href="http://labs.apache.org/">Labs</a></li>
```

```
    <li><a href="/licenses/">Licensing</a></li>
```

```
    <li><a href="/foundation/license-faq.html">Licensing FAQ</a></li>
```

```
    <li><a href="/foundation/marks/">Trademark Policy</a></li>
```

```
    <li><a href="/foundation/contact.html">Contacts</a></li>
```

```
  </ul>
```

```
</div>
```

```
<div class="col-sm-2">
```

```
  <h5 class="white">Tech Operations</h5>
```

```
  <ul class="list-unstyled white" role="menu">
```

```
    <li><a href="/dev/">Developer Information</a></li>
```

```
    <li><a href="/dev/infrastructure.html">Infrastructure</a></li>
```

```
    <li><a href="/security/">Security</a></li>
```

```
    <li><a href="http://status.apache.org">Status</a></li>
```

```
    <li><a href="/foundation/contact.html">Contacts</a></li>
```

```
  </ul>
```

```
</div>
```

```
<div class="col-sm-2">
```

```
  <h5 class="white">Press</h5>
```

```
  <ul class="list-unstyled white" role="menu">
```

```
    <li><a href="/press/">Overview</a></li>
```

```
    <li><a href="https://blogs.apache.org/">ASF News</a></li>
```

```
    <li><a href="https://blogs.apache.org/foundation/">Announcements</a></li>
```

```
    <li><a href="https://twitter.com/TheASF">Twitter Feed</a></li>
```

```
    <li><a href="/press/#contact">Contacts</a></li>
```

</ul>

</div>

<div class="col-sm-2">

<h5 class="white">Legal</h5>

<ul class="list-unstyled white" role="menu">

<li><a href="/legal/">Legal Affairs</a></li>

<li><a href="/licenses/">Licenses</a></li>

<li><a href="/foundation/marks/">Trademark Policy</a></li>

<li><a href="/foundation/records/">Public Records</a></li>

<li><a href="/foundation/policies/privacy.html">Privacy Policy</a></li>

<li><a href="/licenses/exports/">Export Information</a></li>

<li><a href="/foundation/license-faq.html">License/Distribution FAQ</a></li>

<li><a href="/foundation/contact.html">Contacts</a></li>

</ul>

</div>

<div class="col-sm-1">

</div>

</div>

<hr class="col-lg-12 hr-white" />

<div class="row">

<div class="col-lg-12">

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</div>

</div>

</div>

</footer>

<!-- / Footer -->

<script src="/js/jquery-2.1.1.min.js"></script>

<script src="/js/bootstrap.js"></script>

</body>

</html>

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## 1.141 kafka-avro-serializer 7.3.0

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# Jackson JSON processor

Jackson is a high-performance, Free/Open Source JSON processing library.

It was originally written by Tatu Saloranta ([tatu.saloranta@iki.fi](mailto:tatu.saloranta@iki.fi)), and has been in development since 2007.

It is currently developed by a community of developers, as well as supported commercially by FasterXML.com.

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A list of contributors may be found from CREDITS file, which is included in some artifacts (usually source distributions); but is always available from the source code management (SCM) system project uses.

Java ClassMate library was originally written by Tatu Saloranta ([tatu.saloranta@iki.fi](mailto:tatu.saloranta@iki.fi))

Other developers who have contributed code are:

### \* Brian Langel

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```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <meta name="description" content="Home page of The Apache Software Foundation">

  <link rel="apple-touch-icon" sizes="57x57" href="/favicons/apple-touch-icon-57x57.png">
  <link rel="apple-touch-icon" sizes="60x60" href="/favicons/apple-touch-icon-60x60.png">
  <link rel="apple-touch-icon" sizes="72x72" href="/favicons/apple-touch-icon-72x72.png">
  <link rel="apple-touch-icon" sizes="76x76" href="/favicons/apple-touch-icon-76x76.png">
  <link rel="apple-touch-icon" sizes="114x114" href="/favicons/apple-touch-icon-114x114.png">
  <link rel="apple-touch-icon" sizes="120x120" href="/favicons/apple-touch-icon-120x120.png">
  <link rel="apple-touch-icon" sizes="144x144" href="/favicons/apple-touch-icon-144x144.png">
  <link rel="apple-touch-icon" sizes="152x152" href="/favicons/apple-touch-icon-152x152.png">
  <link rel="apple-touch-icon" sizes="180x180" href="/favicons/apple-touch-icon-180x180.png">
  <link rel="icon" type="image/png" href="/favicons/favicon-32x32.png" sizes="32x32">
  <link rel="icon" type="image/png" href="/favicons/favicon-194x194.png" sizes="194x194">
  <link rel="icon" type="image/png" href="/favicons/favicon-96x96.png" sizes="96x96">
  <link rel="icon" type="image/png" href="/favicons/android-chrome-192x192.png" sizes="192x192">
  <link rel="icon" type="image/png" href="/favicons/favicon-16x16.png" sizes="16x16">
  <link rel="manifest" href="/favicons/manifest.json">
  <link rel="shortcut icon" href="/favicons/favicon.ico">
  <meta name="msapplication-TileColor" content="#603cba">
  <meta name="msapplication-TileImage" content="/favicons/mstile-144x144.png">
  <meta name="msapplication-config" content="/favicons/browserconfig.xml">
  <meta name="theme-color" content="#303284">

  <title>Apache License, Version 2.0</title>
  <link href='https://fonts.googleapis.com/css?family=Source+Sans+Pro:400,700%7cDroid+Serif:400,700'
rel='stylesheet' type='text/css'>
  <link href="/css/min.bootstrap.css" rel="stylesheet">
  <link href="/css/styles.css" rel="stylesheet">
```

```
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distributed under the License is distributed on an "AS IS" BASIS, WITHOUT WARRANTIES OR
CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing
permissions and limitations under the License. -->
```

```
</head>
```

```
<body>
```

```

<!-- Navigation -->
<header>
<nav class="navbar navbar-default navbar-fixed-top">
  <div class="container">
    <div class="navbar-header">
      <button class="navbar-toggle" type="button" data-toggle="collapse" data-target="#mainnav-collapse">
        <span class="sr-only">Toggle navigation</span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
        <span class="icon-bar"></span>
      </button>
      <a href="#" class="navbar-brand"><span class="glyphicon glyphicon-home"></span></a>
    </div>
    <div class="collapse navbar-collapse" id="mainnav-collapse">
      <div style="line-height:20px; padding-top:5px; float:left"><a href="/">Home</a>&nbsp;&raquo;&nbsp;&nbsp;&nbsp;<a
href="/licenses/">Licenses</a></div>
      <ul class="nav navbar-nav navbar-right">
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">About <span class="caret"></span></a>
          <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation">Overview</a></li>
            <li><a href="/foundation/members.html">Members</a></li>
            <li><a href="/foundation/how-it-works.html">Process</a></li>
            <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
            <li><a href="/foundation/glossary.html">Glossary</a></li>
            <li><a href="/foundation/preFAQ.html">FAQ</a></li>
            <li><a href="/foundation/contact.html ">Contact</a></li>
          </ul>
        </li>
        <li><a href="/index.html#projects-list">Projects</a></li>
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">People <span class="caret"></span></a>
          <ul class="dropdown-menu" role="menu">
            <li><a href="http://people.apache.org">Overview</a></li>
            <li><a href="http://people.apache.org/committer-index.html">Committers</a></li>
            <li><a href="/foundation/how-it-works.html#meritocracy">Meritocracy</a></li>
            <li><a href="/foundation/how-it-works.html#roles">Roles</a></li>
            <li><a href="http://planet.apache.org/">Planet Apache</a></li>
          </ul>
        </li>
        <li class="dropdown">
          <a href="#" class="dropdown-toggle" data-toggle="dropdown">Get Involved <span
class="caret"></span></a>
          <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation/getinvolved.html">Overview</a></li>
            <li><a href="http://community.apache.org">Community Development</a></li>
            <li><a href="http://helpwanted.apache.org/">Help Wanted</a></li>
            <li><a href="http://www.apachecon.com/">ApacheCon</a></li>
          </ul>
        </li>
      </ul>
    </div>
  </div>
</nav>

```

```

        </ul>
    </li>
    <li><a href="/dyn/closer.cgi">Download</a></li>
    <li class="dropdown">
        <a href="#" class="dropdown-toggle" data-toggle="dropdown">Support Apache <span
class="caret"></span></a>
        <ul class="dropdown-menu" role="menu">
            <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
            <li><a href="/foundation/contributing.html">Donations</a></li>
            <li><a href="/foundation/buy_stuff.html">Buy Stuff</a></li>
            <li><a href="/foundation/thanks.html">Thanks</a></li>
        </ul>
    </li>
</ul>
</div>
</div>
</nav>
</header>
<!-- / Navigation -->
<div class="container">
<div class="row">
<div class="col-md-9 col-sm-8 col-xs-12">

</div>
<div class="col-md-3 col-sm-4 col-xs-12">
<div class="input-group" style="margin-bottom: 5px;">
<script>
(function() {
var cx = '005703438322411770421:5mgshgrgx2u';
var gcse = document.createElement('script');
gcse.type = 'text/javascript';
gcse.async = true;
gcse.src = (document.location.protocol == 'https:' ? 'https:' : 'http:') +
    '//cse.google.com/cse.js?cx=' + cx;
var s = document.getElementsByTagName('script')[0];
s.parentNode.insertBefore(gcse, s);
})();
</script>
<gcse:searchbox-only></gcse:searchbox-only>
</div>
<a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/governance/">The Apache Way</a>
<a role="button" class="btn btn-block btn-default btn-xs"
href="https://community.apache.org/contributors/">Contribute</a>
<a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/thanks.html">ASF Sponsors</a>
</div>
</div>
</div>
<div class="container"><style type="text/css">

```



```

/* The following code is added by mdx_elementid.py
   It was originally lifted from http://subversion.apache.org/style/site.css */
/*
* Hide class="elementid-permalink", except when an enclosing heading
* has the :hover property.
*/
.headerlink, .elementid-permalink {
  visibility: hidden;
}
h2:hover > .headerlink, h3:hover > .headerlink, h1:hover > .headerlink, h6:hover > .headerlink, h4:hover >
.headerlink, h5:hover > .headerlink, dt:hover > .elementid-permalink { visibility: visible }</style>
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```
<!-- Footer -->
```

```
<footer class="bg-primary">
```

```

<div class="container">
  <div class="row">
    <br />
    <div class="col-sm-1">

</div>
<div class="col-sm-2">
  <h5 class="white">Community</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="http://community.apache.org/">Overview</a></li>
    <li><a href="/foundation/conferences.html">Conferences</a></li>
    <li><a href="http://community.apache.org/gsoc.html">Summer of Code</a></li>
    <li><a href="http://community.apache.org/newcomers/">Getting Started</a></li>
    <li><a href="/foundation/how-it-works.html">The Apache Way</a></li>
    <li><a href="/travel/">Travel Assistance</a></li>
    <li><a href="/foundation/getinvolved.html">Get Involved</a></li>
    <li><a href="http://community.apache.org/newbiefaq.html">Community FAQ</a></li>
  </ul>
</div>

<div class="col-sm-2">
<h5 class="white">Innovation</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="http://incubator.apache.org/">Incubator</a></li>
    <li><a href="http://labs.apache.org/">Labs</a></li>
    <li><a href="/licenses/">Licensing</a></li>
    <li><a href="/foundation/license-faq.html">Licensing FAQ</a></li>
    <li><a href="/foundation/marks/">Trademark Policy</a></li>
    <li><a href="/foundation/contact.html">Contacts</a></li>
  </ul>
</div>

<div class="col-sm-2">
<h5 class="white">Tech Operations</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="/dev/">Developer Information</a></li>
    <li><a href="/dev/infrastructure.html">Infrastructure</a></li>
    <li><a href="/security/">Security</a></li>
    <li><a href="http://status.apache.org">Status</a></li>
    <li><a href="/foundation/contact.html">Contacts</a></li>
  </ul>
</div>

<div class="col-sm-2">
<h5 class="white">Press</h5>
  <ul class="list-unstyled white" role="menu">
    <li><a href="/press/">Overview</a></li>
    <li><a href="https://blogs.apache.org/">ASF News</a></li>

```

```
<li><a href="https://blogs.apache.org/foundation/">Announcements</a></li>
<li><a href="https://twitter.com/TheASF">Twitter Feed</a></li>
<li><a href="/press/#contact">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Legal</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/legal/">Legal Affairs</a></li>
<li><a href="/licenses/">Licenses</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/records/">Public Records</a></li>
<li><a href="/foundation/policies/privacy.html">Privacy Policy</a></li>
<li><a href="/licenses/exports/">Export Information</a></li>
<li><a href="/foundation/license-faq.html">License/Distribution FAQ</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-1">
</div>
```

```
</div>
```

```
<hr class="col-lg-12 hr-white" />
```

```
<div class="row">
```

```
<div class="col-lg-12">
```

```
<p class="text-center">Copyright &#169; 2016 The Apache Software Foundation, Licensed under the <a
class="white" href="http://www.apache.org/licenses/LICENSE-2.0">Apache License, Version 2.0</a>.</p>
```

```
<p class="text-center">Apache and the Apache feather logo are trademarks of The Apache Software
Foundation.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</footer>
```

```
<!-- / Footer -->
```

```
<script src="/js/jquery-2.1.1.min.js"></script>
```

```
<script src="/js/bootstrap.js"></script>
```

```
</body>
```

```
</html>
```

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</head><body>
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<p>The document has moved <a href="https://opensource.org/licenses/mit-license.php">here</a>.</p>
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```

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Upstream-Name: schema-registry

Source: <https://github.com/confluentinc/schema-registry>

Files: \*

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```
cd <SRC_PATH>
mvn package -DskipTests
mkdir /tmp/jars
mkdir /tmp/overrides
cp package-schema-registry/target/kafka-schema-registry-package-<VERSION>-package/share/java/schema-registry/*.jar /tmp/jars/
cp package-kafka-serde-tools/target/kafka-serde-tools-package-<VERSION>-package/share/java/kafka-serde-tools/*.jar /tmp/jars/
cd <LICENSE_TOOL_PATH>
./bin/run_license_job.bash -i /tmp/jars -l <SRC_PATH>/licenses -n <SRC_PATH>/notices -h
<SRC_PATH>/licenses-and-notices.html -o /tmp/overrides
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
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```

```
<html lang="en-US">
<head>
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<meta http-equiv="content-type" content="text/html; charset=UTF-8">
<style type="text/css">
li {display: block;}
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```

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<ul>
<li><p><b>1. Definitions.</b></p>
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<b>1.1. &ldquo;Contributor&rdquo;</b> means each individual or
entity that creates or contributes to the creation of
Modifications.
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<b>1.2. &ldquo;Contributor Version&rdquo;</b> means
the combination of the Original Software, prior
Modifications used by a Contributor (if any), and the
Modifications made by that particular Contributor.
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<b>1.3. &ldquo;Covered Software&rdquo;</b> means (a) the Original Software, or (b) Modifications, or (c) the combination of files containing Original Software with files containing Modifications, in each case including portions thereof.  
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<b>1.4. &ldquo;Executable&rdquo;</b> means the Covered Software in any form other than Source Code.  
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<b>1.5. &ldquo;Initial Developer&rdquo;</b> means the individual or entity that first makes Original Software available under this License.  
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<b>1.7. &ldquo;License&rdquo;</b> means this document.  
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<b>1.12. &ldquo;Source Code&rdquo;</b> means (a) the common form of computer software code in which modifications are made and (b) associated documentation included in or with such code.

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<p><b>4. Versions of the License.</b></p>

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<p>

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<p>

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<p>

One line to give the program's name and a brief idea of what it does.

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</html>

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"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">

<head>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />

<title>Untitled Document</title>

</head>

<body>

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">

<HTML>

<!-- @page { margin: 0.79in } P { margin-bottom: 0.08in } H1 { margin-top: 0in; margin-bottom: 0.17in; widows: 0; orphans: 0 } H1.western { font-family: "Times New Roman", serif; font-size: 12pt; font-weight: normal } H1.cjk { font-family: "Andale Sans UI"; font-size: 12pt; font-weight: normal } H1.cml { font-family: "Tahoma"; font-size: 12pt; font-weight: normal } -->

<BODY DIR="LTR">

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```
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```

```
<blockquote>signature of Ty Coon, 1 April 1989<br />
```

```
Ty Coon, President of Vice</blockquote>
```

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```
<li style="background-color:yellow;">
```

```
<p><strong>&quot;CLASSPATH&quot; EXCEPTION TO THE GPL VERSION 2</strong><br />
```

```
<br />
```

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```
<br />
```

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<br />
```

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```
</li>
```

```
<p><br />
```

```
<br />
```

```
</p>
```

```
<p><br />
```

```
</p>
```

```
</body>
```

```
</html>
```

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Apache log4j

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# Jackson JSON processor

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

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```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1">
<meta name="description" content="Home page of The Apache Software Foundation">
```

```

<link rel="apple-touch-icon" sizes="57x57" href="/favicons/apple-touch-icon-57x57.png">
<link rel="apple-touch-icon" sizes="60x60" href="/favicons/apple-touch-icon-60x60.png">
<link rel="apple-touch-icon" sizes="72x72" href="/favicons/apple-touch-icon-72x72.png">
<link rel="apple-touch-icon" sizes="76x76" href="/favicons/apple-touch-icon-76x76.png">
<link rel="apple-touch-icon" sizes="114x114" href="/favicons/apple-touch-icon-114x114.png">
<link rel="apple-touch-icon" sizes="120x120" href="/favicons/apple-touch-icon-120x120.png">
<link rel="apple-touch-icon" sizes="144x144" href="/favicons/apple-touch-icon-144x144.png">
<link rel="apple-touch-icon" sizes="152x152" href="/favicons/apple-touch-icon-152x152.png">
<link rel="apple-touch-icon" sizes="180x180" href="/favicons/apple-touch-icon-180x180.png">
<link rel="icon" type="image/png" href="/favicons/favicon-32x32.png" sizes="32x32">
<link rel="icon" type="image/png" href="/favicons/favicon-194x194.png" sizes="194x194">
<link rel="icon" type="image/png" href="/favicons/favicon-96x96.png" sizes="96x96">
<link rel="icon" type="image/png" href="/favicons/android-chrome-192x192.png" sizes="192x192">
<link rel="icon" type="image/png" href="/favicons/favicon-16x16.png" sizes="16x16">
<link rel="manifest" href="/favicons/manifest.json">
<link rel="shortcut icon" href="/favicons/favicon.ico">
<meta name="msapplication-TileColor" content="#603cba">
<meta name="msapplication-TileImage" content="/favicons/mstile-144x144.png">
<meta name="msapplication-config" content="/favicons/browserconfig.xml">
<meta name="theme-color" content="#303284">

<title>Licenses</title>
<link href='https://fonts.googleapis.com/css?family=Source+Sans+Pro:400,700%7cDroid+Serif:400,700'
rel='stylesheet' type='text/css'>
<link href="/css/min.bootstrap.css" rel="stylesheet">
<link href="/css/styles.css" rel="stylesheet">

```

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```
</head>
```

```
<body>
```

```
<!-- Navigation -->
```

```
<header>
```

```
<nav class="navbar navbar-default navbar-fixed-top">
```

```
<div class="container">
```

```
<div class="navbar-header">
```

```
<button class="navbar-toggle" type="button" data-toggle="collapse" data-target="#mainnav-collapse">
```

```
<span class="sr-only">Toggle navigation</span>
```

```

<span class="icon-bar"></span>
<span class="icon-bar"></span>
<span class="icon-bar"></span>
</button>
<a href="#" class="navbar-brand"><span class="glyphicon glyphicon-home"></span></a>
</div>
<div class="collapse navbar-collapse" id="mainnav-collapse">
  <div style="line-height:20px; padding-top:5px; float:left"><a href="/">Home</a>&nbsp;&raquo;&nbsp;&nbsp;<a
href="/licenses/">Licenses</a></div>
  <ul class="nav navbar-nav navbar-right">
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">About <span class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">
        <li><a href="/foundation">Overview</a></li>
        <li><a href="/foundation/members.html">Members</a></li>
        <li><a href="/foundation/how-it-works.html">Process</a></li>
        <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
        <li><a href="/foundation/glossary.html">Glossary</a></li>
        <li><a href="/foundation/preFAQ.html">FAQ</a></li>
        <li><a href="/foundation/contact.html ">Contact</a></li>
      </ul>
    </li>
    <li><a href="/index.html#projects-list">Projects</a></li>
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">People <span class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">
        <li><a href="http://people.apache.org/">Overview</a></li>
        <li><a href="http://people.apache.org/committer-index.html">Committers</a></li>
        <li><a href="/foundation/how-it-works.html#meritocracy">Meritocracy</a></li>
        <li><a href="/foundation/how-it-works.html#roles">Roles</a></li>
        <li><a href="http://planet.apache.org/">Planet Apache</a></li>
      </ul>
    </li>
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">Get Involved <span
class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">
        <li><a href="/foundation/getinvolved.html">Overview</a></li>
        <li><a href="http://community.apache.org/">Community Development</a></li>
        <li><a href="http://helpwanted.apache.org/">Help Wanted</a></li>
        <li><a href="http://www.apachecon.com/">ApacheCon</a></li>
      </ul>
    </li>
    <li><a href="/dyn/closer.cgi">Download</a></li>
    <li class="dropdown">
      <a href="#" class="dropdown-toggle" data-toggle="dropdown">Support Apache <span
class="caret"></span></a>
      <ul class="dropdown-menu" role="menu">

```

```

    <li><a href="/foundation/sponsorship.html">Sponsorship</a></li>
    <li><a href="/foundation/contributing.html">Donations</a></li>
    <li><a href="/foundation/buy_stuff.html">Buy Stuff</a></li>
    <li><a href="/foundation/thanks.html">Thanks</a></li>
  </ul>
</li>
</ul>
</div>
</div>
</nav>
</header>
<!-- / Navigation -->
<div class="container">
  <div class="row">
    <div class="col-md-9 col-sm-8 col-xs-12">
      
    </div>
    <div class="col-md-3 col-sm-4 col-xs-12">
      <div class="input-group" style="margin-bottom: 5px;">
        <script>
(function() {
var cx = '005703438322411770421:5mgshgrgx2u';
var gcse = document.createElement('script');
gcse.type = 'text/javascript';
gcse.async = true;
gcse.src = (document.location.protocol == 'https:' ? 'https:' : 'http:') +
  '//cse.google.com/cse.js?cx=' + cx;
var s = document.getElementsByTagName('script')[0];
s.parentNode.insertBefore(gcse, s);
})();
</script>
  <gcse:searchbox-only></gcse:searchbox-only>
</div>
  <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/governance/">The Apache Way</a>
  <a role="button" class="btn btn-block btn-default btn-xs"
href="https://community.apache.org/contributors/">Contribute</a>
  <a role="button" class="btn btn-block btn-default btn-xs" href="/foundation/thanks.html">ASF Sponsors</a>
</div>
</div>
</div>
<div class="container"><style type="text/css">
/* The following code is added by mdx_elementid.py
It was originally lifted from http://subversion.apache.org/style/site.css */
/*
* Hide class="elementid-permalink", except when an enclosing heading
* has the :hover property.
*/
.headerlink, .elementid-permalink {

```

```

visibility: hidden;
}
h2:hover > .headerlink, h3:hover > .headerlink, h1:hover > .headerlink, h6:hover > .headerlink, h4:hover >
.headerlink, h5:hover > .headerlink, dt:hover > .elementid-permalink { visibility: visible }</style>
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*.</p>
<h3 id="1.1">Apache License, Version 1.1 (historic)<a class="headerlink" href="#1.1" title="Permanent
link">&para;</a></h3>
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```

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<p>Documents may be submitted by fax or email.</p>

<p>If submitting by fax, please print, sign, and fax all pages of the document to +1-919-573-9199. Please send documents right-side-up, first page first;



and send only one document per fax.</p>  
<p>If submitting by email, please fill the form with a pdf viewer,  
print, sign, scan all pages into a single pdf file,  
and email the pdf file as an attachment to secretary@apache.org. If possible,  
send the attachment from the email address in the document.  
Please send only one document per email.</p>  
<p>If you prefer to sign electronically, please fill the form, save it locally (e.g. icla.pdf), and sign the  
file by preparing a detached PGP signature. For example,</p>  
<blockquote>  
<p>gpg --armor --detach-sign icla.pdf</p>  
</blockquote>  
<p>The above will create a file icla.pdf.asc. Send both the file and signature  
as attachments in the same email to secretary@apache.org. Please send only one  
document (file plus signature) per email. Please do not submit your public key to Apache.  
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icla.pdf and icla.pdf.asc for individual agreements;  
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software-grant.pdf and software-grant.pdf.asc for grants. </p>  
<h1 id="crypto">Export restrictions<a class="headerlink" href="#crypto" title="Permanent link">&para;</a></h1>  
<p>For export restriction information, please consult our <a href="/licenses/exports/">ASF Export  
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<p>For answers to frequently asked licensing questions, please consult our  
<a href="/foundation/license-faq.html">Licensing Frequently Asked Questions</a> page.</p></div>

<!-- Footer -->

<footer class="bg-primary">  
<div class="container">  
<div class="row">  
<br />  
<div class="col-sm-1">  
  
</div>  
<div class="col-sm-2">  
<h5 class="white">Community</h5>  
<ul class="list-unstyled white" role="menu">  
<li><a href="http://community.apache.org/">Overview</a></li>  
<li><a href="/foundation/conferences.html">Conferences</a></li>  
<li><a href="http://community.apache.org/gsoc.html">Summer of Code</a></li>  
<li><a href="http://community.apache.org/newcomers/">Getting Started</a></li>  
<li><a href="/foundation/how-it-works.html">The Apache Way</a></li>  
<li><a href="/travel/">Travel Assistance</a></li>

```
<li><a href="/foundation/getinvolved.html">Get Involved</a></li>
<li><a href="http://community.apache.org/newbiefaq.html">Community FAQ</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Innovation</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="http://incubator.apache.org/">Incubator</a></li>
<li><a href="http://labs.apache.org/">Labs</a></li>
<li><a href="/licenses/">Licensing</a></li>
<li><a href="/foundation/license-faq.html">Licensing FAQ</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Tech Operations</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/dev/">Developer Information</a></li>
<li><a href="/dev/infrastructure.html">Infrastructure</a></li>
<li><a href="/security/">Security</a></li>
<li><a href="http://status.apache.org">Status</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Press</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/press/">Overview</a></li>
<li><a href="https://blogs.apache.org/">ASF News</a></li>
<li><a href="https://blogs.apache.org/foundation/">Announcements</a></li>
<li><a href="https://twitter.com/TheASF">Twitter Feed</a></li>
<li><a href="/press/#contact">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-2">
<h5 class="white">Legal</h5>
<ul class="list-unstyled white" role="menu">
<li><a href="/legal/">Legal Affairs</a></li>
<li><a href="/licenses/">Licenses</a></li>
<li><a href="/foundation/marks/">Trademark Policy</a></li>
<li><a href="/foundation/records/">Public Records</a></li>
<li><a href="/foundation/policies/privacy.html">Privacy Policy</a></li>
<li><a href="/licenses/exports/">Export Information</a></li>
</ul>
</div>
```

```
<li><a href="/foundation/license-faq.html">License/Distribution FAQ</a></li>
<li><a href="/foundation/contact.html">Contacts</a></li>
</ul>
</div>
```

```
<div class="col-sm-1">
</div>
```

```
</div>
```

```
<hr class="col-lg-12 hr-white" />
```

```
<div class="row">
```

```
<div class="col-lg-12">
```

```
<p class="text-center">Copyright &#169; 2016 The Apache Software Foundation, Licensed under the <a
class="white" href="http://www.apache.org/licenses/LICENSE-2.0">Apache License, Version 2.0</a>.</p>
```

```
<p class="text-center">Apache and the Apache feather logo are trademarks of The Apache Software
Foundation.</p>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
</footer>
```

```
<!-- / Footer -->
```

```
<script src="/js/jquery-2.1.1.min.js"></script>
```

```
<script src="/js/bootstrap.js"></script>
```

```
</body>
```

```
</html>
```

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# 1.142 opentelemetry-semconv 1.24.0-alpha

## 1.142.1 Available under license :

Apache-2.0

# 1.143 micronaut-grpc-opentracing 3.6.0

## 1.143.1 Available under license :

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 */
```

Found in path(s):

```
* /opt/cola/permits/1682035089_1684512005.6856077/0/micronaut-grpc-opentracing-3-6-0-sources-jar/io/micronaut/grpc/server/tracing/GrpcServerTracingInterceptorConfiguration.java
* /opt/cola/permits/1682035089_1684512005.6856077/0/micronaut-grpc-opentracing-3-6-0-sources-jar/io/micronaut/grpc/client/tracing/package-info.java
* /opt/cola/permits/1682035089_1684512005.6856077/0/micronaut-grpc-opentracing-3-6-0-sources-jar/io/micronaut/grpc/server/tracing/package-info.java
* /opt/cola/permits/1682035089_1684512005.6856077/0/micronaut-grpc-opentracing-3-6-0-sources-jar/io/micronaut/grpc/client/tracing/GrpcClientTracingInterceptorConfiguration.java
* /opt/cola/permits/1682035089_1684512005.6856077/0/micronaut-grpc-opentracing-3-6-0-sources-jar/io/micronaut/grpc/server/tracing/GrpcServerTracingInterceptorFactory.java
* /opt/cola/permits/1682035089_1684512005.6856077/0/micronaut-grpc-opentracing-3-6-0-sources-jar/io/micronaut/grpc/client/tracing/GrpcClientTracingInterceptorFactory.java
```

# 1.144 opentelemetry-sdk 1.24.0



## 1.144.1 Available under license :

Apache-2.0

# 1.145 perfmark-api 0.17.0

## 1.145.1 Available under license :

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```
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 */
```

Found in path(s):

```
*/opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/Impl.java
*/opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-
jar/io/perfmark/PerfMark.java
*/opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/package-
info.java
*/opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/Link.java
*/opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/Tag.java
```

# 1.146 netty-codec-http 4.1.94.Final

## 1.146.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
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- \* License for the specific language governing permissions and limitations
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- \*/

Found in path(s):

- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/CookieUtil.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/cookie/ServerCookieDecoder.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/EmptyHttpHeaders.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/rtsp/RtspEncoder.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/HttpUtil.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/cookie/CookieEncoder.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/CombinedHttpHeaders.java
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\* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/HttpServerKeepAliveHandler.java  
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\* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketServerProtocolConfig.java  
\* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/websocketx/extensions/WebSocketExtensionFilter.java

\* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/websocketx/WebSocketServerHandshakerFactory.java

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- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/ReadOnlyHttpHeaders.java
- \* /opt/cola/permits/1735716150\_1688166894.4270442/0/netty-codec-http-4-1-94-final-sources-jar/io/netty/handler/codec/http/HttpServerExpectContinueHandler.java

## 1.147 jackson-databind 2.14.2

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## 1.148 slf4j 1.7.30

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#
# certdata.txt
#
# This file contains the object definitions for the certs and other
# information "built into" NSS.
#
# Object definitions:
#
# Certificates
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_CERTIFICATE
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE      CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
# CKA_SUBJECT          DER+base64      (varies)
# CKA_ID               byte array      (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER   DER+base64      (varies)
# CKA_VALUE            DER+base64      (varies)
# CKA_NSS_EMAIL        ASCII7          (unused here)
# CKA_NSS_SERVER_DISTRUST_AFTER DER+base64      (varies)
# CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64      (varies)
#
# Trust
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_TRUST
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE      CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_ISSUER           DER+base64      (varies)
```



```

# CKA_SERIAL_NUMBER      DER+base64      (varies)
# CKA_CERT_HASH          binary+base64  (varies)
# CKA_EXPIRES            CK_DATE        (not used here)
# CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST      (varies)
# CKA_TRUST_NON_REPUDIATION CK_TRUST      (varies)
# CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_AGREEMENT CK_TRUST        (varies)
# CKA_TRUST_KEY_CERT_SIGN CK_TRUST        (varies)
# CKA_TRUST_CRL_SIGN     CK_TRUST        (varies)
# CKA_TRUST_SERVER_AUTH  CK_TRUST        (varies)
# CKA_TRUST_CLIENT_AUTH  CK_TRUST        (varies)
# CKA_TRUST_CODE_SIGNING CK_TRUST        (varies)
# CKA_TRUST_EMAIL_PROTECTION CK_TRUST      (varies)
# CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST      (varies)
# CKA_TRUST_IPSEC_TUNNEL CK_TRUST        (varies)
# CKA_TRUST_IPSEC_USER   CK_TRUST        (varies)
# CKA_TRUST_TIME_STAMPING CK_TRUST        (varies)
# CKA_TRUST_STEP_UP_APPROVED CK_BBOOL      (varies)
# (other trust attributes can be defined)
#

```

```

#
# The object to tell NSS that this is a root list and we don't
# have to go looking for others.
#

```

```

BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

```

```

#
# Certificate "GlobalSign Root CA"
#
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Tue Sep 01 12:00:00 1998
# Not Valid After : Fri Jan 28 12:00:00 2028
# Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA\_LABEL UTF8 "GlobalSign Root CA"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\013\004\000\000\000\000\001\025\113\132\303\224  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004  
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006  
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004  
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166  
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022  
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040  
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060  
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060  
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016  
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033  
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231  
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037  
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034  
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052

\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106  
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064  
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320  
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054  
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263  
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362  
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240  
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004  
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015  
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374  
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217  
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247  
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156  
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235  
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341  
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364  
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004  
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146  
\125\342\374\110\311\051\046\151\340

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA"

# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

# Serial Number:04:00:00:00:01:15:4b:5a:c3:94

# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Tue Sep 01 12:00:00 1998

# Not Valid After : Fri Jan 28 12:00:00 2028

# Fingerprint (SHA-256):

EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99

# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
\244\035\202\234
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125

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\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110  
\316\261\244

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204  
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123  
\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060

\061\060\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066  
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060  
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156  
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170  
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046  
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033  
\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016  
\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155  
\224\310\030\071\355\376\102\030\126\337\344\114\111\020\170\116  
\001\166\065\143\022\066\335\146\274\001\004\066\243\125\150\325  
\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312  
\255\006\035\225\342\370\235\361\340\140\377\302\177\165\053\114  
\314\332\376\207\231\041\352\272\376\076\124\327\322\131\170\333  
\074\156\317\240\023\000\032\270\047\241\344\276\147\226\312\240  
\305\263\234\335\311\165\236\353\060\232\137\243\315\331\256\170  
\031\077\043\351\134\333\051\275\255\125\310\033\124\214\143\366  
\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264  
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301  
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153  
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\253\146  
\215\327\263\272\307\232\266\346\125\320\005\361\237\061\215\132  
\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052  
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262  
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370  
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201  
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151  
\023\225\145\037\304\223\074\375\171\217\004\324\076\117\352\367  
\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066  
\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361  
\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354  
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216  
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042  
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170  
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043

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\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243
\113\336\006\226\161\054\362\333\266\037\244\357\077\356
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
# For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
END
```

```
# Trust for "Verisign Class 1 Public Primary Certification Authority - G3"
# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125

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\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120  
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END

CKA\_VALUE MULTILINE\_OCTAL

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\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162  
\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167  
\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050\143  
\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156\054  
\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123\151  
\147\156\040\103\154\141\163\163\040\062\040\120\165\142\154\151  
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060\061  
\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066\062  
\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012\023  
\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056\061  
\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123\151  
\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061  
\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060\103  
\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156\040  
\103\154\141\163\163\040\062\040\120\165\142\154\151\143\040\120  
\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002

\202\001\001\000\257\012\015\302\325\054\333\147\271\055\345\224  
\047\335\245\276\340\260\115\217\263\141\126\074\326\174\303\364  
\315\076\206\313\242\210\342\341\330\244\151\305\265\342\277\301  
\246\107\120\136\106\071\213\325\226\272\265\157\024\277\020\316  
\047\023\236\005\107\233\061\172\023\330\037\331\323\002\067\213  
\255\054\107\360\216\201\006\247\015\060\014\353\367\074\017\040  
\035\334\162\106\356\245\002\310\133\303\311\126\151\114\305\030  
\301\221\173\013\325\023\000\233\274\357\303\110\076\106\140\040  
\205\052\325\220\266\315\213\240\314\062\335\267\375\100\125\262  
\120\034\126\256\314\215\167\115\307\040\115\247\061\166\357\150  
\222\212\220\036\010\201\126\262\255\151\243\122\320\313\034\304  
\043\075\037\231\376\114\350\026\143\216\306\010\216\366\061\366  
\322\372\345\166\335\265\034\222\243\111\315\315\001\315\150\315  
\251\151\272\243\353\035\015\234\244\040\246\301\240\305\321\106  
\114\027\155\322\254\146\077\226\214\340\204\324\066\377\042\131  
\305\371\021\140\250\137\004\175\362\032\366\045\102\141\017\304  
\112\270\076\211\002\003\001\000\001\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\001\001\000\064\046\025  
\074\300\215\115\103\111\035\275\351\041\222\327\146\234\267\336  
\305\270\320\344\135\137\166\042\300\046\371\204\072\072\371\214  
\265\373\354\140\361\350\316\004\260\310\335\247\003\217\060\363  
\230\337\244\346\244\061\337\323\034\013\106\334\162\040\077\256  
\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337  
\060\302\124\260\250\073\125\241\376\026\050\315\102\275\164\156  
\200\333\047\104\247\316\104\135\324\033\220\230\015\036\102\224  
\261\000\054\004\320\164\243\002\005\042\143\143\315\203\265\373  
\301\155\142\153\151\165\375\135\160\101\271\365\277\174\337\276  
\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110  
\260\177\373\066\045\332\225\320\361\044\024\027\335\030\200\153  
\106\043\071\124\365\216\142\011\004\035\224\220\246\233\346\045  
\342\102\105\252\270\220\255\276\010\217\251\013\102\030\224\317  
\162\071\341\261\103\340\050\317\267\347\132\154\023\153\111\263  
\377\343\030\174\211\213\063\135\254\063\327\247\371\332\072\125  
\311\130\020\371\252\357\132\266\317\113\113\337\052

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"

# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

```

# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257
\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust.net Premium 2048 Secure Server CA"
#
# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Serial Number: 946069240 (0x3863def8)
# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net

```

Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Not Valid Before: Fri Dec 24 17:50:51 1999

# Not Valid After : Tue Jul 24 14:15:12 2029

# Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

# Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156  
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\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056  
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143  
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151  
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006  
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105  
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164  
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164  
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156  
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\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056  
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143  
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151  
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006  
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105  
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164  
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164  
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\070\143\336\370

END

CKA\_VALUE MULTILINE\_OCTAL

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\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013

\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006  
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\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050  
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\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155  
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\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
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\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
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\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
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\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056  
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
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\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223  
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167  
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271  
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233

```
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053
\174\136\232\166\351\131\220\305\174\203\065\021\145\121
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust.net Premium 2048 Secure Server CA"

# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Serial Number: 946069240 (0x3863def8)

# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net  
Limited,OU=www.entrust.net/CPS\_2048 incorp. by ref. (limits liab.),O=Entrust.net

# Not Valid Before: Fri Dec 24 17:50:51 1999

# Not Valid After : Tue Jul 24 14:15:12 2029

# Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

# Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
```

```
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\070\143\336\370
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Baltimore CyberTrust Root"

#

# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Serial Number: 33554617 (0x20000b9)

# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

# Not Valid Before: Fri May 12 18:46:00 2000

# Not Valid After : Mon May 12 23:59:00 2025

# Fingerprint (SHA-256):

16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB

# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
```

\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004  
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142  
\145\162\124\162\165\163\164\040\122\157\157\164  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\004\002\000\000\271  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002  
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111  
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164  
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012  
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003  
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103  
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036  
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027  
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060  
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162  
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145  
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023  
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162  
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253  
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200  
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005  
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353  
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271  
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055  
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212  
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033  
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172  
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256  
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230  
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353  
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162  
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077  
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072  
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236  
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001  
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345  
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265  
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344



```
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374
\347\201\035\031\303\044\102\352\143\071\251
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Baltimore CyberTrust Root"
```

```
# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
```

```
# Serial Number: 33554617 (0x20000b9)
```

```
# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
```

```
# Not Valid Before: Fri May 12 18:46:00 2000
```

```
# Not Valid After : Mon May 12 23:59:00 2025
```

```
# Fingerprint (SHA-256):
```

```
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
```

```
# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
```

```

\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority"
#
# Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
# Serial Number: 1164660820 (0x456b5054)
# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
# Not Valid Before: Mon Nov 27 20:23:42 2006
# Not Valid After : Fri Nov 27 20:53:42 2026
# Fingerprint (SHA-256):
73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C
# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004

```

\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160  
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145  
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143  
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040  
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105  
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\105\153\120\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105  
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003  
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164  
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157  
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145  
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026  
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023  
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062  
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060  
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015  
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060  
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162  
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151  
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162  
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004  
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162  
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125  
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306  
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150  
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056  
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213  
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370  
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142

\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333  
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375  
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134  
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150  
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210  
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350  
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177  
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342  
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056  
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330  
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201  
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042  
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062  
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064  
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150  
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373  
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220  
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204  
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004  
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004  
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143  
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320  
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155  
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221  
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264  
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232  
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311  
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342  
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317  
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332  
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354  
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377  
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231  
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140  
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146  
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376  
\036\177\132\264\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority"

# Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is  
incorporated by reference,O="Entrust, Inc.",C=US

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# Serial Number: 1164660820 (0x456b5054)
# Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US
# Not Valid Before: Mon Nov 27 20:23:42 2006
# Not Valid After : Fri Nov 27 20:53:42 2026
# Fingerprint (SHA-256):
73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C
# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324
\147\111\122\371
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\105\153\120\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Root CA"
#
# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
# Serial Number: 65568 (0x10020)
# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

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# Not Valid Before: Tue Jun 11 10:46:39 2002
# Not Valid After : Fri Jun 11 10:46:39 2027
# Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304
```

\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210  
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153  
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117  
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156  
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123  
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225  
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040  
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042  
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110  
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073  
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076  
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201  
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032  
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246  
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343  
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340  
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230  
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251  
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152  
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171  
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323  
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161  
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122  
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151  
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054  
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Root CA"

# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Serial Number: 65568 (0x10020)

# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

# Not Valid Before: Tue Jun 11 10:46:39 2002

# Not Valid After : Fri Jun 11 10:46:39 2027

# Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Root CA"

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CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
\121\261\201\030
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
END
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Comodo AAA Services root"
#
# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Serial Number: 1 (0x1)
# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Not Valid Before: Thu Jan 01 00:00:00 2004
# Not Valid After : Sun Dec 31 23:59:59 2028
# Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END

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CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003  
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204  
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121

\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162  
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062  
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155  
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151  
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372  
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274  
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120  
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277  
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112  
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363  
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302  
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067  
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366  
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003  
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217  
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042  
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242  
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362  
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267  
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237  
\225\351\066\226\230\156

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Comodo AAA Services root"

# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number: 1 (0x1)

# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Jan 01 00:00:00 2004

# Not Valid After : Sun Dec 31 23:59:59 2028

# Fingerprint (SHA-256):

D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4

```

# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
END
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2"
#
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Serial Number: 1289 (0x509)
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 18:27:00 2006
# Not Valid After : Mon Nov 24 18:23:33 2031
# Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\005\011

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005  
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062  
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064  
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232  
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256  
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036  
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140  
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346  
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012  
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111  
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302  
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307  
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301  
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224  
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306  
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351  
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315  
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263

\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365  
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161  
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174  
\255\353\257\367\026\313\333\315\045\053\345\037\373\232\237\342  
\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021  
\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247  
\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263  
\076\321\250\374\243\332\035\260\321\261\043\124\337\104\166\155  
\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052  
\061\344\055\365\345\345\333\310\340\377\345\200\327\013\143\240  
\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362  
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227  
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007  
\243\047\021\356\026\020\173\274\105\112\114\262\004\322\253\357  
\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134  
\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210  
\311\136\373\314\141\334\213\063\167\323\104\062\065\011\142\004  
\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002  
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125  
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366  
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147  
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320  
\366\003\304\031\106\321\224\153\241\111\244\107\060\105\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023  
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237  
\006\133\250\256\161\135\057\005\057\147\346\023\105\203\304\066  
\366\363\300\046\014\015\265\107\144\135\370\264\162\311\106\245  
\003\030\047\125\211\170\175\166\352\226\064\200\027\040\334\347  
\203\370\215\374\007\270\332\137\115\056\147\262\204\375\331\104  
\374\167\120\201\346\174\264\311\015\013\162\123\370\166\007\007  
\101\107\226\014\373\340\202\046\223\125\214\376\042\037\140\145  
\174\137\347\046\263\367\062\220\230\120\324\067\161\125\366\222  
\041\170\367\225\171\372\370\055\046\207\146\126\060\167\246\067  
\170\063\122\020\130\256\077\141\216\362\152\261\357\030\176\112  
\131\143\312\215\242\126\325\247\057\274\126\037\317\071\301\342  
\373\012\250\025\054\175\115\172\143\306\154\227\104\074\322\157  
\303\112\027\012\370\220\322\127\242\031\121\245\055\227\101\332  
\007\117\251\120\332\220\215\224\106\341\076\360\224\375\020\000  
\070\365\073\350\100\341\264\156\126\032\040\314\157\130\215\355  
\056\105\217\326\351\223\077\347\261\054\337\072\326\042\214\334  
\204\273\042\157\320\370\344\306\071\351\004\210\074\303\272\353  
\125\172\155\200\231\044\365\154\001\373\370\227\260\224\133\353

```
\375\322\157\361\167\150\015\065\144\043\254\270\125\241\003\321
\115\102\031\334\370\165\131\126\243\371\250\111\171\370\257\016
\271\021\240\174\267\152\355\064\320\266\046\142\070\032\207\014
\370\350\375\056\323\220\177\007\221\052\035\326\176\134\205\203
\231\260\070\010\077\351\136\371\065\007\344\311\142\156\127\177
\247\120\225\367\272\310\233\346\216\242\001\305\326\146\277\171
\141\363\074\034\341\271\202\134\135\240\303\351\330\110\275\031
\242\021\024\031\156\262\206\033\150\076\110\067\032\210\267\135
\226\136\234\307\357\047\142\010\342\221\031\134\322\361\041\335
\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
\341\243\223\035\314\212\046\132\011\070\320\316\327\015\200\026
\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271
\274\124\042\300\001\120\151\103\236\364\262\357\155\370\354\332
\361\343\261\357\337\221\217\124\052\013\045\301\046\031\304\122
\020\005\145\325\202\020\352\302\061\315\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "QuoVadis Root CA 2"

# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM

# Serial Number: 1289 (0x509)

# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM

# Not Valid Before: Fri Nov 24 18:27:00 2006

# Not Valid After : Mon Nov 24 18:23:33 2031

# Fingerprint (SHA-256):

85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86

# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3"
#
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Serial Number: 1478 (0x5c6)
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 19:11:23 2006
# Not Valid After : Mon Nov 24 19:06:44 2031
# Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144

```

\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062  
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064  
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126  
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314  
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103  
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270  
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001  
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253  
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147  
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053  
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067  
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311  
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335  
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014  
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036  
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057  
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313  
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173  
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323  
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245  
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314  
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136  
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125  
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236  
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210  
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305  
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355  
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111  
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246  
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331  
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322  
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155  
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100  
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327  
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002  
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341  
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011  
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006  
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101



\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103  
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164  
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143  
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151  
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164  
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120  
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156  
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041  
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141  
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160  
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076  
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006  
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103  
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111  
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031  
\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064  
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363  
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240  
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246  
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167  
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255  
\210\213\035\253\026\215\133\146\027\331\026\364\213\200\322\335  
\370\262\166\303\374\070\023\252\014\336\102\151\053\156\363\074  
\353\200\047\333\365\246\104\015\237\132\125\131\013\325\015\122  
\110\305\256\237\362\057\200\305\352\062\120\065\022\227\056\301  
\341\377\361\043\210\121\070\237\362\146\126\166\347\017\121\227  
\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206  
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115  
\267\236\002\256\163\000\310\332\043\003\350\371\352\031\164\142  
\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172  
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261  
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350  
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012  
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173  
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115  
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230  
\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254  
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013  
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141  
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043  
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274

```
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223
\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312
\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 3"
```

```
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
```

```
# Serial Number: 1478 (0x5c6)
```

```
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Fri Nov 24 19:11:23 2006
```

```
# Not Valid After : Mon Nov 24 19:06:44 2031
```

```
# Fingerprint (SHA-256):
```

```
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
```

```
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\002\005\306
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "Security Communication Root CA"
#
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120

```

\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115  
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003  
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164  
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245  
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174  
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072  
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235  
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011  
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113  
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024  
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375  
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344  
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131  
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315  
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333  
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144  
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311  
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115  
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326  
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006  
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133  
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100  
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306  
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131  
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245  
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353  
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101  
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102  
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371  
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131  
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016  
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124  
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101  
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260  
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055  
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003  
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026  
\057\317\246\356\311\160\042\024\275\375\276\154\013\003

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "Security Communication Root CA"
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Camerfirma Chambers of Commerce Root"
#
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037

```

```
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132
```

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001  
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374  
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133  
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304  
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043  
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035  
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066  
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075  
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052  
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121  
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064  
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167  
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006  
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001  
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057  
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143  
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143  
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060  
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351  
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021  
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000  
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150  
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142  
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162  
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056  
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115  
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060  
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164  
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163  
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155  
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001

```
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370
\334
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
# For Email Distrust After: Mon Mar 01 00:00:00 2021
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\061\060\063\060\061\060\060\060\060\060\060\132
END
```

# Trust for "Camerfirma Chambers of Commerce Root"

# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Serial Number: 0 (0x0)

# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF  
A82743287,C=EU

# Not Valid Before: Tue Sep 30 16:13:43 2003

# Not Valid After : Wed Sep 30 16:13:44 2037

# Fingerprint (SHA-256):

0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3

# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Camerfirma Chambers of Commerce Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
```

END



CKA\_ISSUER MULTILINE\_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "XRamp Global CA Root"

#

# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services  
Inc,OU=www.xrampsecurity.com,C=US

# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services  
Inc,OU=www.xrampsecurity.com,C=US

# Not Valid Before: Mon Nov 01 17:14:04 2004

# Not Valid After : Mon Jan 01 05:37:19 2035

# Fingerprint (SHA-256):

CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2

# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "XRamp Global CA Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170  
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155  
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170  
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155  
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217  
\240\255

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120  
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036  
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141  
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044  
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123  
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163  
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130  
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061  
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067  
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167  
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122  
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162  
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125  
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041  
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246  
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320

\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141  
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070  
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254  
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132  
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332  
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027  
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142  
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201  
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024  
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254  
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060  
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057  
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164  
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020  
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012  
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220  
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021  
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110  
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352  
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155  
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211  
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231  
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332  
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260  
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273  
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262  
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341  
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330  
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020  
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311  
\264\003\045\274

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "XRamp Global CA Root"

# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services  
Inc,OU=www.xrampsecurity.com,C=US

# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services

```
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Class 2 CA"
#
# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:06:20 2004
# Not Valid After : Thu Jun 29 17:06:20 2034
# Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
```

# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Go Daddy Class 2 CA"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041  
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040  
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143  
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104  
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067  
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060  
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150  
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160  
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023  
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015

\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030  
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342  
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142  
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030  
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244  
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171  
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377  
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304  
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202  
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241  
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125  
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171  
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057  
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007  
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012  
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162  
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327  
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105  
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317  
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345  
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156  
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020  
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370  
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274  
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021  
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002  
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245  
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237  
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035  
\177\333\275\237

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Class 2 CA"

# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

# Not Valid Before: Tue Jun 29 17:06:20 2004

# Not Valid After : Thu Jun 29 17:06:20 2034

# Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Class 2 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002  
\217\040\356\344

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Starfield Class 2 CA"

#

# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

# Serial Number: 0 (0x0)

# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

```
# Not Valid Before: Tue Jun 29 17:39:16 2004
# Not Valid After : Thu Jun 29 17:39:16 2034
# Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
```



\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151  
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002  
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021  
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237  
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360  
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115  
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045  
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052  
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064  
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072  
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121  
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232  
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270  
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144  
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300  
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006  
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206  
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006  
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157  
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003  
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103  
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363  
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145  
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101  
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343  
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351  
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101  
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064

```
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057
\037\027\224
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Starfield Class 2 CA"
```

```
# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
```

```
# Not Valid Before: Tue Jun 29 17:39:16 2004
```

```
# Not Valid After : Thu Jun 29 17:39:16 2034
```

```
# Fingerprint (SHA-256):
```

```
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
```

```
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Starfield Class 2 CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```

# Certificate "DigiCert Assured ID Root CA"
#
# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145

```

\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076  
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170  
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227  
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337  
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137  
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263  
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046  
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301  
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353  
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361  
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106  
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337

```
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Assured ID Root CA"
```

```
# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
```

```
# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Fri Nov 10 00:00:00 2006
```

```
# Not Valid After : Mon Nov 10 00:00:00 2031
```

```
# Fingerprint (SHA-256):
```

```
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
```

```
# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "DigiCert Global Root CA"
#
# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061

```

\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060  
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127  
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001  
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127  
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277  
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173  
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006  
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172  
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155  
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062  
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111  
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317  
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024  
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277  
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370  
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004  
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177  
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321  
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037  
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126  
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077  
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352  
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105  
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140  
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105  
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154  
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025

```
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225
\225\155\336
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Global Root CA"
```

```
# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
```

```
# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Fri Nov 10 00:00:00 2006
```

```
# Not Valid After : Mon Nov 10 00:00:00 2031
```

```
# Fingerprint (SHA-256):
```

```
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
```

```
# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Global Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```



```

#
# Certificate "DigiCert High Assurance EV Root CA"
#
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002
\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167

```

\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145  
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143  
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015  
\060\066\061\061\061\060\060\060\060\060\060\060\132\027\015\063  
\061\061\061\061\060\060\060\060\060\060\060\132\060\154\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006  
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111  
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167  
\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060  
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164  
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040  
\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346  
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111  
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100  
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326  
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070  
\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370  
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014  
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162  
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232  
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101  
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127  
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163  
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067  
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002  
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144  
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040  
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001  
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357  
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200  
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002  
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234  
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277  
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372  
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263  
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232  
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043  
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305  
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313  
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014  
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066

```
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251
\370\351\056\023\243\167\350\037\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert High Assurance EV Root CA"
```

```
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
```

```
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Fri Nov 10 00:00:00 2006
```

```
# Not Valid After : Mon Nov 10 00:00:00 2031
```

```
# Fingerprint (SHA-256):
```

```
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
```

```
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
\141\307\334\045
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SwissSign Gold CA - G2"

#

# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:30:35 2006

# Not Valid After : Sat Oct 25 08:30:35 2036

# Fingerprint (SHA-256):

62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95

# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Gold CA - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023  
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040  
\103\101\040\055\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023  
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040  
\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\273\100\034\103\365\136\117\260

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000  
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125  
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023  
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060  
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147  
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036  
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027  
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105

\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060  
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147  
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123  
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101  
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251  
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052  
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374  
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130  
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176  
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333  
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330  
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234  
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275  
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340  
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204  
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120  
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250  
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135  
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305  
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053  
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155  
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313  
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014  
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262  
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227  
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274  
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162  
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142  
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203  
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342  
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256  
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266  
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114  
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124  
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031  
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201  
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173  
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360  
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045  
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347  
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006  
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010  
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057

\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163  
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272  
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203  
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374  
\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316  
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144  
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270  
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271  
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000  
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042  
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202  
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236  
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267  
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257  
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164  
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113  
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332  
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044  
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125  
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202  
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352  
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126  
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167  
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053  
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165  
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151  
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042  
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300  
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260  
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111  
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272  
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155  
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362  
\111\044\133\311\260\320\127\301\372\076\172\341\227\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SwissSign Gold CA - G2"

# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

# Not Valid Before: Wed Oct 25 08:30:35 2006

# Not Valid After : Sat Oct 25 08:30:35 2036

# Fingerprint (SHA-256):

62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95

```

# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SwissSign Silver CA - G2"
#
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:32:46 2006
# Not Valid After : Sat Oct 25 08:32:46 2036
# Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123

```

\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023  
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145  
\162\040\103\101\040\055\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023  
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145  
\162\040\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\117\033\324\057\124\273\057\113

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117  
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004  
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014  
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037  
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156  
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060  
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132  
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060  
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025  
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151  
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030  
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162  
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061  
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272  
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057  
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054  
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004  
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353  
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133  
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117  
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205  
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350  
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066  
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007  
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144  
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346  
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155  
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013  
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276



\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177  
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204  
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311  
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011  
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020  
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074  
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107  
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173  
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361  
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337  
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330  
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013  
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372  
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105  
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103  
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201  
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302  
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200  
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034  
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075  
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060  
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164  
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163  
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177  
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135  
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151  
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037  
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205  
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075  
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143  
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135  
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220  
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072  
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156  
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231  
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365  
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133  
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274  
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325  
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363  
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227  
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170  
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275

```
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SwissSign Silver CA - G2"
```

```
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
```

```
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
```

```
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
```

```
# Not Valid Before: Wed Oct 25 08:32:46 2006
```

```
# Not Valid After : Sat Oct 25 08:32:46 2036
```

```
# Fingerprint (SHA-256):
```

```
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
```

```
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\117\033\324\057\124\273\057\113
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureTrust CA"
#
# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:31:18 2006
# Not Valid After : Mon Dec 31 19:40:55 2029
# Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162

```

\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145  
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061  
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063  
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012  
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157  
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125  
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040  
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312  
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063  
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340  
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110  
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216  
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365  
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117  
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250  
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030  
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144  
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243  
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162  
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044  
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122  
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064  
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131  
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023  
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000  
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026  
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257  
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240  
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145  
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124  
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112  
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167  
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120  
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043  
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177  
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310  
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274  
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046  
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237  
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266

```
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050
\113\035\236\054\302\270\150\274\355\002\356\061
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "SecureTrust CA"

# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

# Not Valid Before: Tue Nov 07 19:31:18 2006

# Not Valid After : Mon Dec 31 19:40:55 2029

# Fingerprint (SHA-256):

F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73

# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SecureTrust CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "Secure Global CA"
#
# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011

```

\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125  
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040  
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006  
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157  
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006  
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211  
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105  
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017  
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032  
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120  
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144  
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011  
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360  
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015  
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310  
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014  
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302  
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373  
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167  
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120  
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060  
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004  
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172  
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060  
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162  
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157  
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006  
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013  
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262  
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263  
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316  
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014  
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072  
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046  
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051  
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264  
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330  
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111  
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171  
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134  
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000

```

\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Secure Global CA"
# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO Certification Authority"
#
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater

```



```
Manchester,C=GB
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Fri Dec 01 00:00:00 2006
# Not Valid After : Mon Dec 31 23:59:59 2029
# Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
```

\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125  
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002  
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145  
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061  
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162  
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117  
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060  
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367  
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373  
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333  
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310  
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104  
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241  
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174  
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077  
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146  
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351  
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075  
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341  
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376  
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120  
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216  
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116  
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060  
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345  
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115  
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156  
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030  
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174  
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002

```
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001
\145
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "COMODO Certification Authority"
```

```
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
```

```
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Not Valid Before: Fri Dec 01 00:00:00 2006
```

```
# Not Valid After : Mon Dec 31 23:59:59 2029
```

```
# Fingerprint (SHA-256):
```

```
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
```

```
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "COMODO Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
```

```
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "COMODO ECC Certification Authority"

#

# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Serial Number: 1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a

# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater Manchester,C=GB

# Not Valid Before: Thu Mar 06 00:00:00 2008

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7

# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
```

\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143  
\231\052

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037  
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114  
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023  
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060  
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071  
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023  
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162  
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162  
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157  
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115  
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053  
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221  
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341  
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344  
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011  
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011  
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262  
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224  
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254

\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346  
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316  
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223  
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157  
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346  
\334\335\363\377\035\054\072\026\127\331\222\071\326

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "COMODO ECC Certification Authority"

# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a

# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater  
Manchester,C=GB

# Not Valid Before: Thu Mar 06 00:00:00 2008

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7

# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216  
\055\223\303\021

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143  
\231\052

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GA CA"
#
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Not Valid Before: Sun Dec 11 16:03:44 2005
# Not Valid After : Fri Dec 11 16:09:51 2037
# Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END

```

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124  
\337\232

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101  
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020  
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171  
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162  
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060  
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157  
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145  
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124  
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154  
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060  
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067  
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013  
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006  
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060  
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150  
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003  
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144  
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050  
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127  
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157  
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066  
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172  
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121  
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377



```
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311
\374\276\337\012\015
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISeKey Global Root GA CA"
```

```
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
```

```
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
```

```
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
```

```
# Not Valid Before: Sun Dec 11 16:03:44 2005
```

```
# Not Valid After : Fri Dec 11 16:09:51 2037
```

```
# Fingerprint (SHA-256):
```

```
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
```

```
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260
\104\033\017\251
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110  
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113  
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160  
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124  
\337\232

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna"

#

# Issuer: CN=Certigna,O=Dhimyotis,C=FR

# Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

# Subject: CN=Certigna,O=Dhimyotis,C=FR

# Not Valid Before: Fri Jun 29 15:13:05 2007

# Not Valid After : Tue Jun 29 15:13:05 2027

# Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

# Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157  
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145  
\162\164\151\147\156\141

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061  
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157

\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145  
\162\164\151\147\156\141  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\011\000\376\334\343\001\017\311\110\377  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000  
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125  
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014  
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003  
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027  
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015  
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061  
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020  
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163  
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151  
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036  
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170  
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155  
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016  
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362  
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036  
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175  
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360  
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334  
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364  
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220  
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016  
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157  
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366  
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134  
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372  
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071  
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060  
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101  
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021  
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023  
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150  
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003  
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343  
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102

```
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Certigna"

# Issuer: CN=Certigna,O=Dhimyotis,C=FR

# Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

# Subject: CN=Certigna,O=Dhimyotis,C=FR

# Not Valid Before: Fri Jun 29 15:13:05 2007

# Not Valid After : Tue Jun 29 15:13:05 2027

# Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

# Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certigna"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
\254\375\224\227
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
```

```

\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ePKI Root Certification Authority"
#
# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d
# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Mon Dec 20 02:31:27 2004
# Not Valid After : Wed Dec 20 02:31:27 2034
# Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025  
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036  
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027  
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136  
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060  
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141  
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164  
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113  
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341  
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155  
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007  
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217  
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376  
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041  
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225  
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364  
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367  
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020  
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065  
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047  
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330  
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111  
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221  
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162  
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300  
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243  
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024  
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224  
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076  
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101  
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322  
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172  
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052  
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107  
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203  
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215

\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251  
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132  
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215  
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002  
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004  
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125  
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060  
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005  
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307  
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201  
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000  
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312  
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066  
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017  
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122  
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227  
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277  
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322  
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323  
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066  
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245  
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355  
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272  
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224  
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115  
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001  
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217  
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341  
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122  
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200  
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211  
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263  
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342  
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374  
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304  
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156  
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143  
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203  
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352  
\201\370\021\234

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ePKI Root Certification Authority"

# Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Mon Dec 20 02:31:27 2004

# Not Valid After : Wed Dec 20 02:31:27 2034

# Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ePKI Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342  
\075\151\306\360

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150  
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040  
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145  
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322  
\274\235

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "certSIGN ROOT CA"

#

# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Serial Number:20:06:05:16:70:02

# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Not Valid Before: Tue Jul 04 17:20:04 2006

# Not Valid After : Fri Jul 04 17:20:04 2031



```
# Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001
```

\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200  
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020  
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320  
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045  
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057  
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211  
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327  
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044  
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030  
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124  
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223  
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031  
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133  
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367  
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210  
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240  
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240  
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160  
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302  
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210  
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115  
\366\356\260\132\116\111\104\124\130\137\102\203

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "certSIGN ROOT CA"

# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Serial Number:20:06:05:16:70:02

# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

# Not Valid Before: Tue Jul 04 17:20:04 2006

# Not Valid After : Fri Jul 04 17:20:04 2031

# Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
# Issuer: CN=NetLock Arany (Class Gold) F..tan...s..tv..ny,OU=Tan...s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2c:e4:00:10
# Subject: CN=NetLock Arany (Class Gold) F..tan...s..tv..ny,OU=Tan...s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164

```

\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303  
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303  
\272\163\303\255\164\166\303\241\156\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\006\111\101\054\344\000\020

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111  
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006  
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102  
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012  
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067  
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303  
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003  
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040  
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221  
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036  
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027  
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201  
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163  
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114  
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004  
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156  
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163  
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114  
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163

\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163  
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245  
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071  
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141  
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174  
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070  
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202  
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220  
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106  
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302  
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316  
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173  
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205  
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204  
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366  
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266  
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221  
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233  
\330\316\304\143\165\077\131\107\261

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"

```

# Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2c:e4:00:10
# Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 1"
#
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Serial Number: 1000 (0x3e8)

```

```
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Not Valid Before: Thu May 15 05:13:14 2003
# Not Valid After : Mon May 15 04:52:29 2023
# Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060\065
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042
```

\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320  
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151  
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037  
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047  
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174  
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363  
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341  
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067  
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145  
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327  
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101  
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332  
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063  
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154  
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105  
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203  
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116  
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321  
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206  
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342  
\002\153\331\132

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 1"

# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

# Serial Number: 1000 (0x3e8)

# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

# Not Valid Before: Thu May 15 05:13:14 2003

# Not Valid After : Mon May 15 04:52:29 2023

# Fingerprint (SHA-256):

F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2



```

# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureSign RootCA11"
#
# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Serial Number: 1 (0x1)
# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Not Valid Before: Wed Apr 08 04:56:47 2009
# Not Valid After : Sun Apr 08 04:56:47 2029
# Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040

```

\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032  
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147  
\156\040\122\157\157\164\103\101\061\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032  
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147  
\156\040\122\157\157\164\103\101\061\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053  
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162  
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006  
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156  
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060  
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064  
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006  
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004  
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054  
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023  
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103  
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063  
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027  
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224  
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074  
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072  
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266  
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225  
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203  
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362  
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175  
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330  
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213  
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342

\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305  
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053  
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002  
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324  
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355  
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241  
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146  
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257  
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073  
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120  
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255  
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102  
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253  
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335  
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310  
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371  
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154  
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055  
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215  
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003  
\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SecureSign RootCA11"

# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

# Serial Number: 1 (0x1)

# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

# Not Valid Before: Wed Apr 08 04:56:47 2009

# Not Valid After : Sun Apr 08 04:56:47 2029

# Fingerprint (SHA-256):

BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12

# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SecureSign RootCA11"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145

\307\330\021\263

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsec e-Szigno Root CA 2009"
#
# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
# Serial Number:00:c2:7e:43:04:4e:47:3f:19
# Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Jun 16 11:30:18 2009
# Not Valid After : Sun Dec 30 11:30:18 2029
# Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
# Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125  
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160  
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151  
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006  
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145  
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040  
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015  
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147  
\156\157\056\150\165

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000  
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003  
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007  
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003  
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164  
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143  
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122  
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006  
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157  
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015  
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062  
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061  
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017  
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061  
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163  
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003  
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151  
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071  
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317  
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175  
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165  
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134  
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330  
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034  
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024  
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116  
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002

\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373  
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032  
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247  
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302  
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044  
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203  
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265  
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075  
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003  
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314  
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006  
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145  
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321  
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223  
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041  
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312  
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124  
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244  
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242  
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131  
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371  
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036  
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207  
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334  
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141  
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070  
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155  
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311  
\202\042\055\172\124\253\160\303\175\042\145\202\160\226

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsec e-Szigno Root CA 2009"

# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:00:c2:7e:43:04:4e:47:3f:19

# Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Jun 16 11:30:18 2009

# Not Valid After : Sun Dec 30 11:30:18 2029

# Fingerprint (SHA-256):

3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78

# Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R3"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Serial Number:04:00:00:00:00:01:21:58:53:08:a2
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Not Valid Before: Wed Mar 18 10:00:00 2009
# Not Valid After : Sun Mar 18 10:00:00 2029
# Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\013\004\000\000\000\000\001\041\130\123\010\242

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004  
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206  
\110\206\367\015\001\001\001\013\005\000\060\114\061\040\060\036\006  
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156  
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060  
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151  
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157  
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061\070  
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070  
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125  
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122  
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006  
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156  
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141  
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365  
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374  
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202  
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243  
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023  
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337  
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260  
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246  
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254  
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365  
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335  
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351  
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377  
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031



\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233  
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161  
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250  
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124  
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312  
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212  
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051  
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123  
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203  
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212  
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000  
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025  
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027  
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125  
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213  
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054  
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057  
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162  
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107  
\130\077\137

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root CA - R3"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Serial Number:04:00:00:00:00:01:21:58:53:08:a2

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

# Not Valid Before: Wed Mar 18 10:00:00 2009

# Not Valid After : Sun Mar 18 10:00:00 2029

# Fingerprint (SHA-256):

CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B

# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA - R3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133  
\205\151\166\255

END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:53:ec:3b:ee:fb:b2:48:5f
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Wed May 20 08:38:15 2009
# Not Valid After : Tue Dec 31 08:38:15 2030
# Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141

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\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163  
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064  
\060\066\070  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\010\123\354\073\356\373\262\110\137  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123  
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004  
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040  
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060  
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062  
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006  
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004  
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177

\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001  
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176  
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040  
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305  
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113  
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066  
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075  
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341  
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345  
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365  
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341  
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113  
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065  
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227  
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246  
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022  
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160  
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322  
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144  
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242  
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100  
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205  
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347  
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175  
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114  
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254

```
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:53:ec:3b:ee:fb:b2:48:5f

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Wed May 20 08:38:15 2009

# Not Valid After : Tue Dec 31 08:38:15 2030

# Fingerprint (SHA-256):

04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF

# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
\267\367\266\372
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\123\354\073\356\373\262\110\137
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

```

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Izenpe.com"
#
# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003

```

\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012  
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060  
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143  
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152  
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171  
\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244  
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216  
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231  
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014  
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207  
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267  
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301  
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127  
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074  
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174  
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003  
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341  
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340  
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376  
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204  
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046  
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020  
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265  
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251  
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215  
\006\063\132\242\205\345\220\065\240\142\134\026\116\360\343\242  
\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353  
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013  
\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360  
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044  
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001  
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114  
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215  
\277\332\177\242\017\227\117\014\323\015\373\327\321\345\162\176  
\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354  
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201  
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156  
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221  
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132  
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040  
\101\060\061\063\063\067\062\066\060\055\122\115\145\162\143\056  
\126\151\164\157\162\151\141\055\107\141\163\164\145\151\172\040  
\124\061\060\065\065\040\106\066\062\040\123\070\061\103\060\101  
\006\003\125\004\011\014\072\101\166\144\141\040\144\145\154\040  
\115\145\144\151\164\145\162\162\141\156\145\157\040\105\164\157  
\162\142\151\144\145\141\040\061\064\040\055\040\060\061\060\061

\060\040\126\151\164\157\162\151\141\055\107\141\163\164\145\151  
\172\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\035\034\145  
\016\250\362\045\173\264\221\317\344\261\261\346\275\125\164\154  
\005\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\002\001\000\170\246\014\026\112\237\114\210\072\300\313  
\016\245\026\175\237\271\110\137\030\217\015\142\066\366\315\031  
\153\254\253\325\366\221\175\256\161\363\077\263\016\170\205\233  
\225\244\047\041\107\102\112\174\110\072\365\105\174\263\014\216  
\121\170\254\225\023\336\306\375\175\270\032\220\114\253\222\003  
\307\355\102\001\316\017\330\261\372\242\222\341\140\155\256\172  
\153\011\252\306\051\356\150\111\147\060\200\044\172\061\026\071  
\133\176\361\034\056\335\154\011\255\362\061\301\202\116\271\273  
\371\276\277\052\205\077\300\100\243\072\131\374\131\113\074\050  
\044\333\264\025\165\256\015\210\272\056\163\300\275\130\207\345  
\102\362\353\136\356\036\060\042\231\313\067\321\304\041\154\201  
\354\276\155\046\346\034\344\102\040\236\107\260\254\203\131\160  
\054\065\326\257\066\064\264\315\073\370\062\250\357\343\170\211  
\373\215\105\054\332\234\270\176\100\034\141\347\076\242\222\054  
\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223  
\127\053\336\205\003\371\151\067\313\236\170\152\005\264\305\061  
\170\211\354\172\247\205\341\271\173\074\336\276\036\171\204\316  
\237\160\016\131\302\065\056\220\052\061\331\344\105\172\101\244  
\056\023\233\064\016\146\173\111\253\144\227\320\106\303\171\235  
\162\120\143\246\230\133\006\275\110\155\330\071\203\160\350\065  
\360\005\321\252\274\343\333\310\002\352\174\375\202\332\302\133  
\122\065\256\230\072\255\272\065\223\043\247\037\110\335\065\106  
\230\262\020\150\344\245\061\302\012\130\056\031\201\020\311\120  
\165\374\352\132\026\316\021\327\356\357\120\210\055\141\377\077  
\102\163\005\224\103\325\216\074\116\001\072\031\245\037\106\116  
\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326  
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076  
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006  
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041  
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154  
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124  
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154  
\333\374\046\210\307

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Izenpe.com"

# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES

# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d

# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES



```

# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Chambers of Commerce Root - 2008"
#
# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Serial Number:00:a3:da:42:7e:a4:b1:ae:da
# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Not Valid Before: Fri Aug 01 12:29:50 2008
# Not Valid After : Sat Jul 31 12:29:50 2038
# Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\243\332\102\176\244\261\256\332
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000
\243\332\102\176\244\261\256\332\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051\060
\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162\163
```

\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164\040\055\040\062\060\060\070\060\036\027\015\060\070\060\070  
\060\061\061\062\062\071\065\060\132\027\015\063\070\060\067\063  
\061\061\062\062\071\065\060\132\060\201\256\061\013\060\011\006  
\003\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004  
\007\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143  
\165\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141  
\164\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141  
\056\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060  
\020\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070  
\067\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103  
\141\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051  
\060\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162  
\163\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157  
\157\164\040\055\040\062\060\060\070\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\257\000\313\160\067\053  
\200\132\112\072\154\170\224\175\243\177\032\037\366\065\325\275  
\333\313\015\104\162\076\046\262\220\122\272\143\073\050\130\157  
\245\263\155\224\246\363\335\144\014\125\366\366\347\362\042\042  
\200\136\341\142\306\266\051\341\201\154\362\277\345\175\062\152  
\124\240\062\031\131\376\037\213\327\075\140\206\205\044\157\343  
\021\263\167\076\040\226\065\041\153\263\010\331\160\056\144\367  
\204\222\123\326\016\260\220\212\212\343\207\215\006\323\275\220  
\016\342\231\241\033\206\016\332\232\012\273\013\141\120\006\122  
\361\236\177\166\354\313\017\320\036\015\317\231\060\075\034\304  
\105\020\130\254\326\323\350\327\345\352\305\001\007\167\326\121  
\346\003\177\212\110\245\115\150\165\271\351\274\236\116\031\161  
\365\062\113\234\155\140\031\013\373\314\235\165\334\277\046\315  
\217\223\170\071\171\163\136\045\016\312\134\353\167\022\007\313  
\144\101\107\162\223\253\120\303\353\011\166\144\064\322\071\267  
\166\021\011\015\166\105\304\251\256\075\152\257\265\175\145\057  
\224\130\020\354\134\174\257\176\342\266\030\331\320\233\116\132  
\111\337\251\146\013\314\074\306\170\174\247\234\035\343\316\216  
\123\276\005\336\140\017\153\345\032\333\077\343\341\041\311\051  
\301\361\353\007\234\122\033\001\104\121\074\173\045\327\304\345  
\122\124\135\045\007\312\026\040\270\255\344\101\356\172\010\376  
\231\157\203\246\221\002\260\154\066\125\152\347\175\365\226\346  
\312\201\326\227\361\224\203\351\355\260\261\153\022\151\036\254  
\373\135\251\305\230\351\264\133\130\172\276\075\242\104\072\143  
\131\324\013\045\336\033\117\275\345\001\236\315\322\051\325\237  
\027\031\012\157\277\014\220\323\011\137\331\343\212\065\314\171  
\132\115\031\067\222\267\304\301\255\257\364\171\044\232\262\001  
\013\261\257\134\226\363\200\062\373\134\075\230\361\240\077\112  
\336\276\257\224\056\331\125\232\027\156\140\235\143\154\270\143  
\311\256\201\134\030\065\340\220\273\276\074\117\067\042\271\176  
\353\317\236\167\041\246\075\070\201\373\110\332\061\075\053\343  
\211\365\320\265\275\176\340\120\304\022\211\263\043\232\020\061

\205\333\256\157\357\070\063\030\166\021\002\003\001\000\001\243  
\202\001\154\060\202\001\150\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\014\060\035\006\003\125  
\035\016\004\026\004\024\371\044\254\017\262\265\370\171\300\372  
\140\210\033\304\331\115\002\236\027\031\060\201\343\006\003\125  
\035\043\004\201\333\060\201\330\200\024\371\044\254\017\262\265  
\370\171\300\372\140\210\033\304\331\115\002\236\027\031\241\201  
\264\244\201\261\060\201\256\061\013\060\011\006\003\125\004\006  
\023\002\105\125\061\103\060\101\006\003\125\004\007\023\072\115  
\141\144\162\151\144\040\050\163\145\145\040\143\165\162\162\145  
\156\164\040\141\144\144\162\145\163\163\040\141\164\040\167\167  
\167\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155  
\057\141\144\144\162\145\163\163\051\061\022\060\020\006\003\125  
\004\005\023\011\101\070\062\067\064\063\062\070\067\061\033\060  
\031\006\003\125\004\012\023\022\101\103\040\103\141\155\145\162  
\146\151\162\155\141\040\123\056\101\056\061\051\060\047\006\003  
\125\004\003\023\040\103\150\141\155\142\145\162\163\040\157\146  
\040\103\157\155\155\145\162\143\145\040\122\157\157\164\040\055  
\040\062\060\060\070\202\011\000\243\332\102\176\244\261\256\332  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\075\006\003\125\035\040\004\066\060\064\060\062\006\004\125  
\035\040\000\060\052\060\050\006\010\053\006\001\005\005\007\002  
\001\026\034\150\164\164\160\072\057\057\160\157\154\151\143\171  
\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\002\001\000\220\022\257\042\065\302\243\071\360\056\336\351\265  
\351\170\174\110\276\077\175\105\222\136\351\332\261\031\374\026  
\074\237\264\133\146\236\152\347\303\271\135\210\350\017\255\317  
\043\017\336\045\072\136\314\117\245\301\265\055\254\044\322\130  
\007\336\242\317\151\204\140\063\350\020\015\023\251\043\320\205  
\345\216\173\246\236\075\162\023\162\063\365\252\175\306\143\037  
\010\364\376\001\177\044\317\053\054\124\011\336\342\053\155\222  
\306\071\117\026\352\074\176\172\106\324\105\152\106\250\353\165  
\202\126\247\253\240\174\150\023\063\366\235\060\360\157\047\071  
\044\043\052\220\375\220\051\065\362\223\337\064\245\306\367\370  
\357\214\017\142\112\174\256\323\365\124\370\215\266\232\126\207  
\026\202\072\063\253\132\042\010\367\202\272\352\056\340\107\232  
\264\265\105\243\005\073\331\334\056\105\100\073\352\334\177\350  
\073\353\321\354\046\330\065\244\060\305\072\254\127\236\263\166  
\245\040\173\371\036\112\005\142\001\246\050\165\140\227\222\015  
\156\076\115\067\103\015\222\025\234\030\042\315\121\231\240\051  
\032\074\137\212\062\063\133\060\307\211\057\107\230\017\243\003  
\306\366\361\254\337\062\360\331\201\032\344\234\275\366\200\024  
\360\321\054\271\205\365\330\243\261\310\245\041\345\034\023\227  
\356\016\275\337\051\251\357\064\123\133\323\344\152\023\204\006  
\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360  
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022  
\012\212\171\260\075\003\177\151\113\364\064\040\175\263\064\352

```
\216\113\144\365\076\375\263\043\147\025\015\004\270\360\055\301
\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311
\376\230\047\102\306\253\306\236\260\320\133\070\245\233\120\336
\176\030\230\265\105\073\366\171\264\350\367\032\173\006\203\373
\320\213\332\273\307\275\030\253\010\157\074\200\153\100\077\031
\031\272\145\212\346\276\325\134\323\066\327\357\100\122\044\140
\070\147\004\061\354\217\363\202\306\336\271\125\363\073\061\221
\132\334\265\010\025\255\166\045\012\015\173\056\207\342\014\246
\006\274\046\020\155\067\235\354\335\170\214\174\200\305\360\331
\167\110\320
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Chambers of Commerce Root - 2008"
```

```
# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
```

```
# Serial Number:00:a3:da:42:7e:a4:b1:ae:da
```

```
# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
```

```
# Not Valid Before: Fri Aug 01 12:29:50 2008
```

```
# Not Valid After : Sat Jul 31 12:29:50 2038
```

```
# Fingerprint (SHA-256):
```

```
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
```

```
# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\170\152\164\254\166\253\024\177\234\152\060\120\272\236\250\176
\376\232\316\074
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\200\236\204\132\016\145\013\027\002\363\125\030\052\076\327
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
```

```
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\000\243\332\102\176\244\261\256\332
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Global Chambersign Root - 2008"
```

```
#
```

```
# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see
current address at www.camerfirma.com/address),C=EU
```

```
# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
```

```
# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
```

```
# Not Valid Before: Fri Aug 01 12:31:40 2008
```

```
# Not Valid After : Sat Jul 31 12:31:40 2038
```

```
# Fingerprint (SHA-256):
```

```
13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA
```

```
# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
```

\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163  
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\311\315\323\351\325\175\043\316

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\111\060\202\005\061\240\003\002\001\002\002\011\000  
\311\315\323\351\325\175\043\316\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\201\254\061\013\060\011\006\003  
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007  
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165  
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164  
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056  
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020  
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067  
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141  
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060  
\045\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103  
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040  
\055\040\062\060\060\070\060\036\027\015\060\070\060\070\060\061  
\061\062\063\061\064\060\132\027\015\063\070\060\067\063\061\061  
\062\063\061\064\060\132\060\201\254\061\013\060\011\006\003\125  
\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007\023  
\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165\162  
\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164\040  
\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056\143  
\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020\006  
\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061  
\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060\045  
\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103\150  
\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040\055  
\040\062\060\060\070\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\300\337\126\323\344\072\233\166\105\264  
\023\333\377\301\266\031\213\067\101\030\225\122\107\353\027\235  
\051\210\216\065\154\006\062\056\107\142\363\111\004\277\175\104  
\066\261\161\314\275\132\011\163\325\331\205\104\377\221\127\045  
\337\136\066\216\160\321\134\161\103\035\331\332\357\134\322\373  
\033\275\072\265\313\255\243\314\104\247\015\256\041\025\077\271

\172\133\222\165\330\244\022\070\211\031\212\267\200\322\342\062  
\157\126\234\221\326\210\020\013\263\164\144\222\164\140\363\366  
\317\030\117\140\262\043\320\307\073\316\141\113\231\217\302\014  
\320\100\262\230\334\015\250\116\243\271\012\256\140\240\255\105  
\122\143\272\146\275\150\340\371\276\032\250\201\273\036\101\170  
\165\323\301\376\000\125\260\207\124\350\047\220\065\035\114\063  
\255\227\374\227\056\230\204\277\054\311\243\277\321\230\021\024  
\355\143\370\312\230\210\130\027\231\355\105\003\227\176\074\206  
\036\210\214\276\362\221\204\217\145\064\330\000\114\175\267\061  
\027\132\051\172\012\030\044\060\243\067\265\172\251\001\175\046  
\326\371\016\216\131\361\375\033\063\265\051\073\027\073\101\266  
\041\335\324\300\075\245\237\237\037\103\120\311\273\274\154\172  
\227\230\356\315\214\037\373\234\121\256\213\160\275\047\237\161  
\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325  
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256  
\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035  
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336  
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035  
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351  
\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153  
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307  
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233  
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141  
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120  
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323  
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040  
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060  
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026  
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361  
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201  
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153  
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257  
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125  
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151  
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141  
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141  
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144  
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011  
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125  
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155  
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023  
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163  
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202  
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035  
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060  
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164



\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162  
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177  
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032  
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131  
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250  
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257  
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063  
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365  
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252  
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361  
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230  
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135  
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163  
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077  
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110  
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235  
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372  
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367  
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035  
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204  
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324  
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116  
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260  
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170  
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050  
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011  
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326  
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036  
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351  
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150  
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231  
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060  
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364  
\351\233\256\325\124\300\164\200\321\013\102\237\301

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Global Chambersign Root - 2008"

# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at [www.camerfirma.com/address](http://www.camerfirma.com/address)),C=EU

# Not Valid Before: Fri Aug 01 12:31:40 2008

# Not Valid After : Sat Jul 31 12:31:40 2038

```

# Fingerprint (SHA-256):
13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA
# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Root Certificate Authority - G2"
#
# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007
```

\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030  
\006\003\125\004\012\023\021\107\157\104\141\144\144\171\056\143  
\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010  
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203  
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366  
\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116  
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007  
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215  
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336  
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062  
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262  
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353  
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141  
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051  
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200  
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221  
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333  
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033  
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000  
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040  
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227  
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145  
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214  
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256  
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053  
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337  
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353  
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355  
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072  
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350  
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333  
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075  
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316  
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006  
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324  
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210  
\342\342\104\276\134\367\352\034\365

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Go Daddy Root Certificate Authority - G2"

# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302  
\124\375\346\213

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157  
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157  
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012  
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111  
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157  
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164  
\171\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Starfield Root Certificate Authority - G2"

#

# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,

```
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
```

\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060  
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154  
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060  
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071  
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172  
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143  
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151  
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133  
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327  
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040  
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334  
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133  
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165  
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161  
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363  
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315  
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202  
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373  
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115  
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244  
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134  
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164  
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303  
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060  
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001  
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071  
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324  
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321  
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147  
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267  
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323

```
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Starfield Root Certificate Authority - G2"
```

```
# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
```

```
# Not Valid Before: Tue Sep 01 00:00:00 2009
```

```
# Not Valid After : Thu Dec 31 23:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
```

```
# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
```



```

\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Services Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012

```

\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150  
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073  
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145  
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156  
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164  
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023  
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156  
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060  
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154  
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150  
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071  
\060\071\060\061\060\060\060\060\060\132\027\015\063\067\061  
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003  
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021  
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154  
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162  
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151  
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004  
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162  
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276  
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051  
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136  
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033  
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266  
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035  
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203  
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112  
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256  
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314  
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336  
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015

\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105  
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144  
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237  
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205  
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252  
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010  
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055  
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336  
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301  
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052  
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056  
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163  
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320  
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047  
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035  
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372  
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046  
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247  
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060  
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250  
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215  
\261\050\272

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Starfield Services Root Certificate Authority - G2"

# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Serial Number: 0 (0x0)

# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,  
Inc.",L=Scottsdale,ST=Arizona,C=US

# Not Valid Before: Tue Sep 01 00:00:00 2009

# Not Valid After : Thu Dec 31 23:59:59 2037

# Fingerprint (SHA-256):

56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5

# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Commercial"
#
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Serial Number:77:77:06:27:26:a9:b1:7c
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:06:06 2010
# Not Valid After : Tue Dec 31 14:06:06 2030
# Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026

```

\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026  
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155  
\145\162\143\151\141\154  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\010\167\167\006\047\046\251\261\174  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167  
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015  
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063  
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151  
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037  
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303  
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217  
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065  
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137  
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053  
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107  
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326  
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013  
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005  
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002  
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265  
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201  
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120  
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253  
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334  
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077

```
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Commercial"
```

```
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
```

```
# Serial Number:77:77:06:27:26:a9:b1:7c
```

```
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:06:06 2010
```

```
# Not Valid After : Tue Dec 31 14:06:06 2030
```

```
# Fingerprint (SHA-256):
```

```
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
```

```
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Commercial"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054
\307\262\170\267
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\167\167\006\047\046\251\261\174
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Networking"

#

# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Serial Number:7c:4f:04:39:1c:d4:99:2d

# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:08:24 2010

# Not Valid After : Tue Dec 31 14:08:24 2030

# Fingerprint (SHA-256):

```
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
```

# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Networking"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\174\117\004\071\034\324\231\055
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174  
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013  
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006  
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163  
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015  
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063  
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006  
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163  
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151  
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151  
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240  
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217  
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362  
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063  
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241  
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232  
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253  
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324  
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113  
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374  
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275  
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051  
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024  
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012  
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106  
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026  
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003  
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242  
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264  
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316  
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116  
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321  
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356  
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144  
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145  
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131  
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025  
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110



```
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Networking"
```

```
# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
```

```
# Serial Number:7c:4f:04:39:1c:d4:99:2d
```

```
# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:08:24 2010
```

```
# Not Valid After : Tue Dec 31 14:08:24 2030
```

```
# Fingerprint (SHA-256):
```

```
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
```

```
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Networking"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\174\117\004\071\034\324\231\055
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "AffirmTrust Premium"
#
# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
# Serial Number:6d:8c:14:46:b1:a6:0a:ee
# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:10:36 2010
# Not Valid After : Mon Dec 31 14:10:36 2040
# Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042
```

\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337  
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232  
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347  
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020  
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221  
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013  
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331  
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047  
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055  
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322  
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373  
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273  
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271  
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167  
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265  
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173  
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050  
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076  
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206  
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043  
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003  
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222  
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270  
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225  
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322  
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000  
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013  
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032  
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173  
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270  
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327  
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273  
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021  
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116  
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166  
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104  
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101  
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040  
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254  
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365  
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101  
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142

\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262  
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320  
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070  
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010  
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234  
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000  
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175  
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320  
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106  
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057  
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005  
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103  
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112  
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107  
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110  
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344  
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274  
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303  
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027  
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216  
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317  
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052  
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236  
\051\340\266\270\011\150\031\034\030\103

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium"

# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Serial Number:6d:8c:14:46:b1:a6:0a:ee

# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:10:36 2010

# Not Valid After : Mon Dec 31 14:10:36 2040

# Fingerprint (SHA-256):

70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A

# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145  
\046\062\050\047

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\155\214\024\106\261\246\012\356

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AffirmTrust Premium ECC"

#

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:20:24 2010

# Not Valid After : Mon Dec 31 14:20:24 2040

# Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AffirmTrust Premium ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155  
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027  
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155  
\151\165\155\040\105\103\103

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\164\227\045\212\307\077\172\124

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164  
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075  
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146  
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004  
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120  
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060  
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061  
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125  
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061  
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155  
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103  
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003  
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234  
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350  
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275  
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117  
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170  
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065  
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060  
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154  
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306  
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161  
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210  
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131  
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002  
\214\171

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AffirmTrust Premium ECC"

# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Serial Number:74:97:25:8a:c7:3f:7a:54

# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

# Not Valid Before: Fri Jan 29 14:20:24 2010

```

# Not Valid After : Mon Dec 31 14:20:24 2040
# Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA"
#
# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number: 279744 (0x444c0)
# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
```



\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001  
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307  
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227  
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074  
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314  
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253  
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060  
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124  
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256  
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121  
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314  
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227  
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333  
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061  
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151  
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251  
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305  
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246  
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162  
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271  
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067  
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313  
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201  
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055  
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274  
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061  
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076  
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230  
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132  
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130  
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110  
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232  
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106  
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Network CA"

# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies  
S.A.,C=PL

# Serial Number: 279744 (0x444c0)

```

# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Root Certification Authority"
#
# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 1 (0x1)
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Thu Aug 28 07:24:33 2008
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112
```

\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325  
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104  
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157  
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021  
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307  
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242  
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122  
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227  
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370  
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124  
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363  
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135  
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375  
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061  
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033  
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362  
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074  
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276  
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202  
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345  
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314  
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154  
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254  
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101  
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203  
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036  
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106  
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347  
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066  
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332  
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031  
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316  
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TWCA Root Certification Authority"

# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 1 (0x1)

# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Thu Aug 28 07:24:33 2008

# Not Valid After : Tue Dec 31 15:59:59 2030

```

# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Explicitly Distrust DigiNotar Root CA"
#
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Fri Jul 27 17:19:37 2007
# Not Valid After : Mon Mar 31 18:19:22 2025
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157  
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151  
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061  
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021  
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156  
\154

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157  
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151  
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061  
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021  
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156  
\154

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377  
\377\377

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017  
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060  
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141  
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151  
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060  
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156  
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060  
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132  
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060  
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022  
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164  
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147  
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040  
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151  
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126  
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201  
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300  
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177  
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330

\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213  
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337  
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045  
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123  
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007  
\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043  
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042  
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041  
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313  
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110  
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114  
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376  
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344  
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357  
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314  
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351  
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154  
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262  
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042  
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077  
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102  
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323  
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176  
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147  
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002  
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004  
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257  
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362  
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203  
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302  
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013  
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075  
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114  
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313  
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273  
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235

\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160  
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007  
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351  
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134  
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045  
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113  
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174  
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304  
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012  
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330  
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

# Trust for Certificate "Explicitly Distrust DigiNotar Root CA"  
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL  
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff  
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL  
# Not Valid Before: Fri Jul 27 17:19:37 2007  
# Not Valid After : Mon Mar 31 18:19:22 2025  
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E  
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260  
\316\272\041\057  
END  
CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116  
END  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157  
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151  
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061  
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021  
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156  
\154  
END



```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication RootCA2"
#
# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Fri May 29 05:00:39 2009
# Not Valid After : Tue May 29 05:00:39 2029
# Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
```

\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045  
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124  
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056  
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036  
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151  
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036  
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027  
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135  
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060  
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162  
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054  
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123  
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143  
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025  
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145  
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360  
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253  
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021  
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265  
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114  
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336  
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251  
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020  
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353  
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031  
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216  
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074  
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375  
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260  
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003  
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054  
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254  
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131  
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105  
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237  
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051  
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334  
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004  
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274  
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174  
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001

```
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136
\201\050\174\247\175\047\353\000\256\215\067
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Security Communication RootCA2"

# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number: 0 (0x0)

# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Fri May 29 05:00:39 2009

# Not Valid After : Tue May 29 05:00:39 2029

# Fingerprint (SHA-256):

51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6

# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication RootCA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "Actalis Authentication Root CA"
#
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Serial Number:57:0a:11:97:42:c4:e3:cc
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Not Valid Before: Thu Sep 22 11:22:02 2011
# Not Valid After : Sun Sep 22 11:22:02 2030
# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003

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\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164  
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\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062  
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002  
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154  
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164  
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065  
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003  
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\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101  
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\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157  
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\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051  
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322  
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\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117  
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020  
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\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205  
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020  
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132  
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136  
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132  
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041  
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005  
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\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013  
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144  
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061  
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\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252  
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152  
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363  
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\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254  
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025  
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267  
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272  
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143  
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331  
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300  
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227  
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070  
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160  
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\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300  
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321  
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225  
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363  
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124  
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274  
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146  
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124  
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024  
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\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056  
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Actalis Authentication Root CA"

# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Serial Number:57:0a:11:97:42:c4:e3:cc

# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

# Not Valid Before: Thu Sep 22 11:22:02 2011

# Not Valid After : Sun Sep 22 11:22:02 2030

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# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 2 Root CA"
#
# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:38:03 2010
# Not Valid After : Fri Oct 26 08:38:03 2040
# Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101  
END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002  
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\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132  
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
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\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164  
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\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165  
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377  
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\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134



\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350  
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031  
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257  
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\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033  
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342  
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135  
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\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025  
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\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054  
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272  
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110  
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320  
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331

```
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277
\327\201\011\361\311\307\046\015\254\230\026\126\240
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Buypass Class 2 Root CA"
```

```
# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Serial Number: 2 (0x2)
```

```
# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Not Valid Before: Tue Oct 26 08:38:03 2010
```

```
# Not Valid After : Fri Oct 26 08:38:03 2040
```

```
# Fingerprint (SHA-256):
```

```
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
```

```
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\002
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Buypass Class 3 Root CA"

#

# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:28:58 2010

# Not Valid After : Fri Oct 26 08:28:58 2040

# Fingerprint (SHA-256):

ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D

# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 3 Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101  
END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061  
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163  
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040  
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163  
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132  
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060

\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035  
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163  
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060  
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172  
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030  
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075  
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307  
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304  
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347  
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072  
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075  
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355  
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034  
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327  
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071  
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023  
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134  
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113  
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064  
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027  
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156  
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246  
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330  
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013  
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110  
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322  
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016  
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132  
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303  
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303  
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237  
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017  
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142  
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262  
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057  
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043  
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342  
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302  
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125

\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137  
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200  
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322  
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245  
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101  
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066  
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033  
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163  
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032  
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172  
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221  
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157  
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325  
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206  
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256  
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326  
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071  
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004  
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377  
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314  
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065  
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222  
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065  
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303  
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170  
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346  
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152  
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351  
\061\356\006\274\163\277\023\142\012\237\307\271\227

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Buypass Class 3 Root CA"

# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Serial Number: 2 (0x2)

# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO

# Not Valid Before: Tue Oct 26 08:28:58 2010

# Not Valid After : Fri Oct 26 08:28:58 2040

# Fingerprint (SHA-256):

ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D

# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 3 Root CA"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "T-TeleSec GlobalRoot Class 3"
#
# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Serial Number: 1 (0x1)
# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Not Valid Before: Wed Oct 01 10:29:56 2008
# Not Valid After : Sat Oct 01 23:59:59 2033
# Fingerprint (SHA-256):
FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD
# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045

```

\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060  
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042  
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315  
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366  
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053  
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077  
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104

\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373  
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270  
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042  
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206  
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271  
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221  
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223  
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114  
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067  
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137  
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265  
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277  
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262  
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115  
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035  
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131  
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262  
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312  
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364  
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223  
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076  
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323  
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157  
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011  
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245  
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032  
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202  
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051  
\116\223\303\244\124\024\133

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 3"

# Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:29:56 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD



```

# Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623603 (0x983f3)
# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:35:58 2009
# Not Valid After : Mon Nov 05 08:35:58 2029
# Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\011\203\363

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011  
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003  
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071  
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070  
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132  
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014  
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154  
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105  
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067  
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126  
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125  
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066  
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100  
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121  
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121  
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051  
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234  
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014  
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070

\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340  
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151  
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145  
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305  
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336  
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323  
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176  
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143  
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164  
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157  
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062  
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117  
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054  
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145  
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103  
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167  
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154  
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154  
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175  
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262  
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342  
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204  
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330  
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164  
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241  
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151  
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012  
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031  
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133  
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274  
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227  
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366  
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330  
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136  
\164\145\327\134\376\243\342

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root Class 3 CA 2 2009"  
# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE  
# Serial Number: 623603 (0x983f3)

```

# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:35:58 2009
# Not Valid After : Mon Nov 05 08:35:58 2029
# Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623604 (0x983f4)
# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:50:46 2009
# Not Valid After : Mon Nov 05 08:50:46 2029
# Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355
```

\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034  
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121  
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072  
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160  
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374  
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225  
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355  
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060  
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323  
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232  
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201  
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160  
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164  
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122  
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141  
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045  
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055  
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104  
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166  
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240  
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055  
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055  
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163  
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357  
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051  
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316  
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111  
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071  
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262  
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110  
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105  
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042  
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104  
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332  
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046  
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063  
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227  
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327  
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041  
\352\237\026\361\054\124\265

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "D-TRUST Root Class 3 CA 2 EV 2009"
# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623604 (0x983f4)
# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:50:46 2009
# Not Valid After : Mon Nov 05 08:50:46 2029
# Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140
\372\271\026\203
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "CA Disig Root R2"
#
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03

```

# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CA Disig Root R2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061  
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163  
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104  
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125  
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157  
\164\040\122\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061  
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163  
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104  
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125  
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157  
\164\040\122\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\222\270\210\333\260\212\301\143

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000  
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125  
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023  
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006  
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056  
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151  
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061  
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062  
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060  
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003  
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061  
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040  
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103  
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060  
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000  
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236  
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346  
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101



\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107  
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002  
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243  
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310  
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003  
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322  
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336  
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307  
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304  
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321  
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053  
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052  
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316  
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212  
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005  
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166  
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207  
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015  
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211  
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161  
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261  
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003  
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100  
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232  
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154  
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321  
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012  
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365  
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235  
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035  
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012  
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136  
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001  
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114  
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047  
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250  
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237  
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126  
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274  
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033  
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323  
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321  
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232  
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213  
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074

```
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375
\363\154\033\165\106\243\345\112\027\351\244\327\013
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "CA Disig Root R2"
```

```
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
```

```
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
```

```
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
```

```
# Not Valid Before: Thu Jul 19 09:15:30 2012
```

```
# Not Valid After : Sat Jul 19 09:15:30 2042
```

```
# Fingerprint (SHA-256):
```

```
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
```

```
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CA Disig Root R2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
```

```
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\011\000\222\270\210\333\260\212\301\143
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ACCVRAIZ1"

#

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

# Fingerprint (SHA-256):

```
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
```

# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ACCVRAIZ1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\136\303\267\246\103\177\244\340
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136  
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\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016  
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015  
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060  
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061  
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061  
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020  
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\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103  
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202  
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\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035  
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\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225  
\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024  
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\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033  
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\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352  
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\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337  
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105  
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\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207  
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\125\064\106\052\213\206\073

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ACCVRAIZ1"

# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Serial Number:5e:c3:b7:a6:43:7f:a4:e0

# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

# Not Valid Before: Thu May 05 09:37:37 2011

# Not Valid After : Tue Dec 31 09:37:37 2030

# Fingerprint (SHA-256):

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13

# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

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CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
\274\123\144\027
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Global Root CA"
#
# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 3262 (0xcbe)
# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Wed Jun 27 06:28:33 2012
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
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\040\103\101

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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\014\276

END

CKA\_VALUE MULTILINE\_OCTAL

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\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071  
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\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004  
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\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263  
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\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166  
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\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000  
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\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063  
\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064  
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205  
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367  
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145  
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150  
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142  
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054  
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376  
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103  
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217  
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241  
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114  
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243  
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226  
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351  
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237  
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326  
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367  
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025  
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143  
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004  
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127  
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263  
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316

```
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262
\053\006\320\004\315
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "TWCA Global Root CA"

# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Serial Number: 3262 (0xcbe)

# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

# Not Valid Before: Wed Jun 27 06:28:33 2012

# Not Valid After : Tue Dec 31 15:59:59 2030

# Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TWCA Global Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\002\014\276
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "TeliaSonera Root CA v1"

#

```
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Not Valid Before: Thu Oct 18 12:00:50 2007
# Not Valid After : Mon Oct 18 12:00:50 2032
# Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143
```

\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345  
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165  
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043  
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261  
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227  
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110  
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006  
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176  
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135  
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324  
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254  
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260  
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213  
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046  
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367  
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213  
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336  
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225  
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211  
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056  
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076  
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040  
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170  
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260  
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172  
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354  
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022  
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235  
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220  
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170  
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016  
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325  
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142  
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104  
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345  
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135  
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116  
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261  
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343  
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203  
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343  
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304  
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200  
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235  
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107

```
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211
\245\240\314\277\323\366\165\244\165\226\155\126
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TeliaSonera Root CA v1"
```

```
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
```

```
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Not Valid Before: Thu Oct 18 12:00:50 2007
```

```
# Not Valid After : Mon Oct 18 12:00:50 2032
```

```
# Fingerprint (SHA-256):
```

```
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
```

```
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
```

\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004  
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122  
\157\157\164\040\103\101\040\166\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372  
\213\315\226

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Certification Authority"

#

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR

# Serial Number:6a:68:3e:9c:51:9b:cb:53

# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR

# Not Valid Before: Tue Mar 05 12:09:48 2013

# Not Valid After : Fri Mar 03 12:09:48 2023

# Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\152\150\076\234\121\233\313\123

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152  
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125  
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014  
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012  
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102  
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152  
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154  
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\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172  
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165  
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063  
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013  
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006  
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076  
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040  
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153  
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151  
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046  
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141  
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115  
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014  
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
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\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030  
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113

\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113  
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107  
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015  
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053  
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205  
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104  
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144  
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050  
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273  
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263  
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303  
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331  
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215  
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007  
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263  
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102  
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255  
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171  
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336  
\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014  
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305  
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012  
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374  
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313  
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061  
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347  
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013  
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077  
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027  
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307  
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035  
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372  
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035  
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171  
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005  
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034  
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320  
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221  
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326  
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320  
\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230  
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323  
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141  
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134  
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072



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\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Certification Authority"

# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Serial Number:6a:68:3e:9c:51:9b:cb:53

# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im  
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

# Not Valid Before: Tue Mar 05 12:09:48 2013

# Not Valid After : Fri Mar 03 12:09:48 2023

# Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165  
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151  
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040  
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055  
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163  
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006  
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\152\150\076\234\121\233\313\123

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "T-TeleSec GlobalRoot Class 2"

#

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services  
GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services  
GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:40:14 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

# Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

# Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060

\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163  
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040  
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060  
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155  
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045  
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123  
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154  
\141\163\163\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001  
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\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164  
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123  
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035  
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060  
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145  
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141  
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060  
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065  
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124  
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162  
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142  
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171  
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164  
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124  
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157  
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350  
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035  
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110  
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145

\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202  
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366  
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115  
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142  
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302  
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336  
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352  
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104  
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040  
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331  
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306  
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237  
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277  
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054  
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162  
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237  
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364  
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002  
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043  
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332  
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160  
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165  
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121  
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\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311  
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030  
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015  
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\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333  
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117  
\005\047\216\023\241\156\302

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "T-TeleSec GlobalRoot Class 2"

# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services  
GmbH,C=DE

# Serial Number: 1 (0x1)

# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services  
GmbH,C=DE

# Not Valid Before: Wed Oct 01 10:40:14 2008

# Not Valid After : Sat Oct 01 23:59:59 2033

```

# Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
# Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Atos TrustedRoot 2011"
#
# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
# Serial Number:5c:33:cb:62:2c:5f:b3:32
# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
# Not Valid Before: Thu Jul 07 14:58:30 2011
# Not Valid After : Tue Dec 31 23:59:59 2030
# Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

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CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326
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\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234  
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042  
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003  
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356  
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011  
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006  
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004  
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224  
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270  
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043  
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206  
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001  
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017  
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130  
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354  
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134  
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302  
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132  
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203  
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151  
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344  
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357  
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140  
\035\362\376\011\021\260\360\207\173\247\235

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Atos TrustedRoot 2011"

# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Serial Number:5c:33:cb:62:2c:5f:b3:32

# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

# Not Valid Before: Thu Jul 07 14:58:30 2011

# Not Valid After : Tue Dec 31 23:59:59 2030

# Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Atos TrustedRoot 2011"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
END
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 1 G3"
#
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 17:27:44 2012
# Not Valid After : Sun Jan 12 17:27:44 2042
# Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144

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\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003  
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\061\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023  
\050\265\226\324\145\223

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170  
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226  
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015  
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064  
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100  
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125  
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075  
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217  
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236  
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250  
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265  
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065  
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076  
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043  
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041  
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004  
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220  
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351  
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246  
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157  
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250  
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313  
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232  
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134  
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075  
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017  
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306

\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265  
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112  
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255  
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074  
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161  
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216  
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231  
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102  
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255  
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363  
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312  
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025  
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202  
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317  
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141  
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166  
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145  
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057  
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015  
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277  
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002  
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271  
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330  
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111  
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057  
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124  
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137  
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066  
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206  
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360  
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344  
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205  
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204  
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143  
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121  
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112  
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151  
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025  
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264  
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155  
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326  
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207  
\063\140\345\303

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "QuoVadis Root CA 1 G3"
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 17:27:44 2012
# Not Valid After : Sun Jan 12 17:27:44 2042
# Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\03\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2 G3"
#
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

```

```
# Not Valid Before: Thu Jan 12 18:59:32 2012
# Not Valid After : Sun Jan 12 18:59:32 2042
# Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210
```

\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137  
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275  
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037  
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026  
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311  
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241  
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246  
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240  
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014  
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076  
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061  
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236  
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065  
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325  
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357  
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043  
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334  
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007  
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252  
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246  
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312  
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163  
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264  
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041  
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241  
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370  
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044  
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345  
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222  
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105  
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306  
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166  
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263  
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173  
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272  
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310  
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211  
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102  
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275  
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361  
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232  
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243  
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207

```
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 2 G3"
```

```
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
```

```
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
```

```
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Thu Jan 12 18:59:32 2012
```

```
# Not Valid After : Sun Jan 12 18:59:32 2042
```

```
# Fingerprint (SHA-256):
```

```
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
```

```
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3 G3"
#
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END

```

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275  
\003\240\317\022\152\035

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056  
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317  
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034  
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015  
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064  
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013  
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006  
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114  
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023  
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103  
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227  
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221  
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153  
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254  
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156  
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342  
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205  
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321  
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352  
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001  
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234  
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356  
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131  
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221  
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353  
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335  
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344  
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261  
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147  
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360  
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074  
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210  
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245  
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131  
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021  
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151  
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111



\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340  
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020  
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220  
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111  
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376  
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274  
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065  
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261  
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161  
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126  
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012  
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310  
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360  
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311  
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357  
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111  
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334  
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140  
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155  
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224  
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217  
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271  
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371  
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037  
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234  
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071  
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345  
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305  
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016  
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176  
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034  
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016  
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315  
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165  
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353  
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177  
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047  
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375  
\130\371\230\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "QuoVadis Root CA 3 G3"
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G2"
#
# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85

```

# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "DigiCert Assured ID Root G2"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151  
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040  
\122\157\157\164\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232  
\364\113

END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013  
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061  
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145

\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050  
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200  
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317  
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063  
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034  
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154  
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114  
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351  
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171  
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335  
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100  
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161  
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323  
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056  
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171  
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372  
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001  
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026  
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275  
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310  
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170  
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245  
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110  
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321  
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175  
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342  
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033  
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302  
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375  
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015  
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127  
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257  
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336  
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067  
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050  
\042\023\163\154\317\046\365\212\051\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Assured ID Root G2"

# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

```

# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221
\223\121\135\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G3"
#
# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052
```

```
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057
\352\226\143\152\145\105\222\225\001\264
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Assured ID Root G3"
```

```
# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
```

```
# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
```

```
# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
```

```
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert Global Root G2"

#

# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F

# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
```



\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011  
\372\345

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003  
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107  
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060  
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220  
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210  
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254  
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124  
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261  
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335  
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266  
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220  
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127  
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343  
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263  
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125  
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014  
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020  
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207  
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305  
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225  
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015

```
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345
\062\266
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Global Root G2"
```

```
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
```

```
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
```

```
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Global Root G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
```

```
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "DigiCert Global Root G3"

#

# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0

# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Global Root G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
```

```
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```

# Trust for "DigiCert Global Root G3"
# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Trusted Root G4"
#
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038

```

```
# Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040
\107\064\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
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\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151  
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122  
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135  
\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362  
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033  
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035  
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037  
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223  
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337  
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325  
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233  
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100  
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216  
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117  
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221  
\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020  
\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253  
\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324  
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277  
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117  
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166  
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242  
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357  
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053  
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314  
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214  
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200  
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030  
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154  
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137  
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312  
\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121  
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036  
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055  
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202  
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303  
\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232  
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066  
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351  
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374  
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235

\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123  
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163  
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234  
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336  
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256  
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232  
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211  
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144  
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115  
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227  
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025  
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115  
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117  
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177  
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036  
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133  
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240  
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210  
\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344  
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117  
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065  
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301  
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350  
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246  
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344  
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274  
\317\363\146\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert Trusted Root G4"

# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c

# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US

# Not Valid Before: Thu Aug 01 12:00:00 2013

# Not Valid After : Fri Jan 15 12:00:00 2038

# Fingerprint (SHA-256):

55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88

# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert Trusted Root G4"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175



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\167\135\005\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO RSA Certification Authority"
#
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117

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\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006  
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003  
\206\235

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114  
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201  
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125  
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125  
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023  
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163  
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141  
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\250\377\364\270\255\351\067\373\272\270\364\013\072\371\350\103  
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\162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214  
\341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244  
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\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225  
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\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036
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\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233
\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301
\065\123\205\006\112\135\237\255\273\033\137\164
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "COMODO RSA Certification Authority"
```

```
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
```

```
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Not Valid Before: Tue Jan 19 00:00:00 2010
```

```
# Not Valid After : Mon Jan 18 23:59:59 2038
```

```
# Fingerprint (SHA-256):
```

```
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
```

```
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "USERTrust RSA Certification Authority"

#

# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
```

\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065  
\003\055

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001  
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201  
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023  
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162  
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145  
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125  
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123  
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125  
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123  
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060  
\062\060\061\060\060\060\060\060\132\027\015\063\070\060\061  
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011  
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\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024  
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040  
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\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162  
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\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123  
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\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305  
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\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216  
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\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214  
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\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101  
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204  
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301  
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201  
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217  
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135  
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306  
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220  
\250\375

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "USERTrust RSA Certification Authority"

# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015  
\332\271\255\216

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123



```
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "USERTrust ECC Certification Authority"

#

# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26

# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

# Not Valid Before: Mon Feb 01 00:00:00 2010

# Not Valid After : Mon Jan 18 23:59:59 2038

# Fingerprint (SHA-256):

4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A

# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "USERTrust ECC Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112  
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013  
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006  
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122  
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006  
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200  
\314\046

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134  
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006  
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171  
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145  
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023  
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061  
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062  
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023  
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006  
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164  
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040  
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162  
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122  
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150  
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321  
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005  
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340  
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177  
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137  
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302

```
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "USERTrust ECC Certification Authority"
```

```
# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
```

```
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
```

```
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
```

```
# Not Valid Before: Mon Feb 01 00:00:00 2010
```

```
# Not Valid After : Mon Jan 18 23:59:59 2038
```

```
# Fingerprint (SHA-256):
```

```
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
```

```
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
```

```

\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R5"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154

```

END

CKA\_VALUE MULTILINE\_OCTAL

```
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R5"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

# Not Valid Before: Tue Nov 13 00:00:00 2012

# Not Valid After : Tue Jan 19 03:14:07 2038

```

# Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Staat der Nederlanden Root CA - G3"
#
# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Serial Number: 10003001 (0x98a239)
# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Not Valid Before: Thu Nov 14 11:28:42 2013
# Not Valid After : Mon Nov 13 23:00:00 2028
# Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061  
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040  
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061  
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040  
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\000\230\242\071

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000  
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116  
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036  
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027  
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060  
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060  
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157  
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017  
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112  
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157  
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226  
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225  
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355  
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227  
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021  
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204

\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162  
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222  
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276  
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321  
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124  
\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113  
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263  
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103  
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212  
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174  
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344  
\160\263\337\162\157\132\067\100\211\330\205\244\327\361\013\336  
\103\031\324\112\130\054\214\212\071\236\277\204\207\361\026\073  
\066\014\351\323\264\312\154\031\101\122\011\241\035\260\152\277  
\202\357\160\121\041\062\334\005\166\214\313\367\144\344\003\120  
\257\214\221\147\253\305\362\356\130\330\336\276\367\347\061\317  
\154\311\073\161\301\325\210\265\145\274\300\350\027\027\007\022  
\265\134\322\253\040\223\264\346\202\203\160\066\305\315\243\215  
\255\213\354\243\301\103\207\346\103\342\064\276\225\213\065\355  
\007\071\332\250\035\172\237\066\236\022\260\014\145\022\220\025  
\140\331\046\100\104\343\126\140\245\020\324\152\074\375\101\334  
\016\132\107\266\357\227\141\165\117\331\376\307\262\035\324\355  
\135\111\263\251\152\313\146\204\023\325\134\240\334\337\156\167  
\006\321\161\165\310\127\157\257\017\167\133\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024  
\124\255\372\307\222\127\256\312\065\234\056\022\373\344\272\135  
\040\334\224\127\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\060\231\235\005\062\310\136\016  
\073\230\001\072\212\244\347\007\367\172\370\347\232\337\120\103  
\123\227\052\075\312\074\107\230\056\341\025\173\361\222\363\141  
\332\220\045\026\145\300\237\124\135\016\003\073\133\167\002\234  
\204\266\015\230\137\064\335\073\143\302\303\050\201\302\234\051  
\056\051\342\310\303\001\362\063\352\052\252\314\011\010\367\145  
\147\306\315\337\323\266\053\247\275\314\321\016\160\137\270\043  
\321\313\221\116\012\364\310\172\345\331\143\066\301\324\337\374  
\042\227\367\140\135\352\051\057\130\262\275\130\275\215\226\117  
\020\165\277\110\173\075\121\207\241\074\164\042\302\374\007\177  
\200\334\304\254\376\152\301\160\060\260\351\216\151\342\054\151  
\201\224\011\272\335\376\115\300\203\214\224\130\300\106\040\257  
\234\037\002\370\065\125\111\057\106\324\300\360\240\226\002\017  
\063\305\161\363\236\043\175\224\267\375\072\323\011\203\006\041  
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012  
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012  
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060  
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167  
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211



```
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Staat der Nederlanden Root CA - G3"
```

```
# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
```

```
# Serial Number: 10003001 (0x98a239)
```

```
# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
```

```
# Not Valid Before: Thu Nov 14 11:28:42 2013
```

```
# Not Valid After : Mon Nov 13 23:00:00 2028
```

```
# Fingerprint (SHA-256):
```

```
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
```

```
# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\242\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IdenTrust Commercial Root CA 1"
#
# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 18:12:23 2014
# Not Valid After : Mon Jan 16 18:12:23 2034
# Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112

```

\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156  
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154  
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064  
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060  
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125  
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060  
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163  
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157  
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063  
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123  
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174  
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103  
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224  
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207  
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302  
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051  
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324  
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242  
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365  
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022  
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353  
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142  
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111  
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205  
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213  
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363  
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176  
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312  
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117  
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054  
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112  
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202  
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350  
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323  
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360  
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330  
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157  
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164  
\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303  
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115  
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001

\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300  
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141  
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256  
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007  
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255  
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270  
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055  
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075  
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216  
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167  
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372  
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353  
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067  
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202  
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200  
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112  
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371  
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023  
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123  
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240  
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324  
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352  
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151  
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225  
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106  
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140  
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315  
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331  
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147  
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161  
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200  
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253  
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030  
\272\204\156\207

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "IdenTrust Commercial Root CA 1"  
# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US  
# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02  
# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US  
# Not Valid Before: Thu Jan 16 18:12:23 2014  
# Not Valid After : Mon Jan 16 18:12:23 2034  
# Fingerprint (SHA-256):

```

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IdenTrust Public Sector Root CA 1"
#
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 17:53:32 2014
# Not Valid After : Mon Jan 16 17:53:32 2034
# Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162  
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144  
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123  
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162  
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144  
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123  
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000  
\000\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012  
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163  
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156  
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143  
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027  
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015  
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020  
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164  
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124  
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164  
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224  
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073  
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204  
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175  
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262  
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000  
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354  
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122  
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255  
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015  
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105  
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114  
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200

\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321  
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246  
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252  
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360  
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066  
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131  
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362  
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353  
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166  
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125  
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001  
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045  
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331  
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146  
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034  
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025  
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000  
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303  
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003  
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223  
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021  
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214  
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043  
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156  
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162  
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325  
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016  
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276  
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075  
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077  
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130  
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006  
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270  
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237  
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026  
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050  
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027  
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337  
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254  
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062  
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371  
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172  
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136

```
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245
\267\254\266\255\267\312\076\001\357\234
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "IdenTrust Public Sector Root CA 1"
```

```
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
```

```
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Not Valid Before: Thu Jan 16 17:53:32 2014
```

```
# Not Valid After : Mon Jan 16 17:53:32 2034
```

```
# Fingerprint (SHA-256):
```

```
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
```

```
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
\155\115\105\375
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```



CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority - G2"

#

# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

# Not Valid After : Sat Dec 07 17:55:54 2030

# Fingerprint (SHA-256):

43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39

# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162

\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\112\123\214\050

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112  
\123\214\050\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164  
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003  
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164  
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164  
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050  
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054  
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163  
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055  
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062  
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065  
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156  
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006  
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156  
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055  
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060  
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164  
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165  
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351  
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162  
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323  
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152  
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150  
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215  
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107  
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156

\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126  
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233  
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237  
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365  
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352  
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123  
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364  
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215  
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036  
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003  
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377  
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124  
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151  
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031  
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232  
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074  
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257  
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277  
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306  
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021  
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207  
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130  
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207  
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005  
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213  
\105\366

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - G2"

# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Serial Number: 1246989352 (0x4a538c28)

# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

# Not Valid Before: Tue Jul 07 17:25:54 2009

# Not Valid After : Sat Dec 07 17:55:54 2030

# Fingerprint (SHA-256):

43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39

# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - EC1"
#
# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Dec 18 15:25:36 2012
# Not Valid After : Fri Dec 18 15:55:36 2037
# Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003
```

\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156  
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157  
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145  
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062  
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061  
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003  
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156  
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145  
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067  
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040  
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040  
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165  
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003  
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020  
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042  
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353  
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361  
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155  
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352  
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256  
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107  
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016  
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244  
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316  
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102  
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321  
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365  
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327  
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247  
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270  
\231\267\046\101\133\045\140\256\320\110\032\356\006

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Entrust Root Certification Authority - EC1"  
# Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use  
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

```

# Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
# Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Dec 18 15:25:36 2012
# Not Valid After : Fri Dec 18 15:55:36 2037
# Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "CFCA EV ROOT"
#
# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
# Serial Number: 407555286 (0x184accd6)

```

```
# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
# Not Valid Before: Wed Aug 08 03:07:01 2012
# Not Valid After : Mon Dec 31 03:07:01 2029
# Fingerprint (SHA-256):
5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD
# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117
```



\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067  
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020  
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014  
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113  
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075  
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361  
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371  
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270  
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261  
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051  
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172  
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335  
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163  
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263  
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105  
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055  
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243  
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170  
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317  
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132  
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001  
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055  
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055  
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270  
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140  
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145  
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360  
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325  
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053  
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177  
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157  
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377  
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003  
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013  
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247  
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227  
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323  
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036  
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006  
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113

\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353  
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071  
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122  
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375  
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161  
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262  
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277  
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111  
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175  
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324  
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167  
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135  
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136  
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361  
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315  
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332  
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144  
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136  
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221  
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347  
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231  
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325  
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222  
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331  
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243  
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173  
\056

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "CFCA EV ROOT"

# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Serial Number: 407555286 (0x184accd6)

# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

# Not Valid Before: Wed Aug 08 03:07:01 2012

# Not Valid After : Mon Dec 31 03:07:01 2029

# Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "CFCA EV ROOT"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270

```

\071\217\204\203
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GB CA"
#
# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
# Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Mon Dec 01 15:00:32 2014
# Not Valid After : Thu Dec 01 15:10:31 2039
# Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145  
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124  
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144  
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037  
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154  
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366  
\302\300

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166  
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060  
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027  
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015  
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061  
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016  
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042  
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106  
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163  
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123  
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141  
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267  
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365  
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046  
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261  
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255  
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315  
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127  
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157  
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161  
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144  
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121  
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376  
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117  
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206

\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351  
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153  
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001  
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003  
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065  
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343  
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001  
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201  
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041  
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161  
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224  
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071  
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313  
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012  
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316  
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330  
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354  
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337  
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004  
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332  
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034  
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307  
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176  
\065\255\201\307\116\161\272\210\023

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GB CA"

# Issuer: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Serial Number: 76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

# Subject: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Not Valid Before: Mon Dec 01 15:00:32 2014

# Not Valid After : Thu Dec 01 15:10:31 2039

# Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISEKey Global Root GB CA"

CKA\_CERT\_SHA1\_HASH MULTILINE OCTAL

\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375

\047\254\314\355

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SZAFIR ROOT CA2"
#
# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Not Valid Before: Mon Oct 19 07:43:30 2015
# Not Valid After : Fri Oct 19 07:43:30 2035
# Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061  
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167  
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156  
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125  
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040  
\103\101\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001  
\353\055\334\344\326\344

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076  
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334  
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120  
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152  
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172  
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006  
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117  
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060  
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067  
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006  
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113  
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154  
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030  
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040  
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315  
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173  
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205  
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123  
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222  
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112  
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260  
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332  
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266  
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372  
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073  
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301  
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371  
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002  
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334  
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315  
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003

\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026  
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254  
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351  
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344  
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160  
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157  
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162  
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206  
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314  
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203  
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217  
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120  
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353  
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262  
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076  
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227  
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240  
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212  
\326\040\036\343\163\267

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SZAFIR ROOT CA2"

# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

# Not Valid Before: Mon Oct 19 07:43:30 2015

# Not Valid After : Fri Oct 19 07:43:30 2035

# Fingerprint (SHA-256):

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE

# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SZAFIR ROOT CA2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317  
\136\263\077\336

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231

END

CKA\_ISSUER MULTILINE\_OCTAL



```
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum Trusted Network CA 2"

#

# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Not Valid Before: Thu Oct 06 08:39:56 2011

# Not Valid After : Sat Oct 06 08:39:56 2046

# Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114  
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145  
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040  
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103  
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060  
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022  
\215\351

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041  
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060  
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201  
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042  
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157  
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006  
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165  
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040  
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063  
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070  
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031  
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125  
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162  
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167  
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200  
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357  
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113  
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047  
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302  
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334  
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101  
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111  
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215  
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104

\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300  
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002  
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204  
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167  
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150  
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146  
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061  
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150  
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242  
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032  
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165  
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226  
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272  
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274  
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263  
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113  
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054  
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022  
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276  
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375  
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147  
\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125  
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102  
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241  
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072  
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005  
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325  
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020  
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157  
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024  
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337  
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130  
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204  
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275  
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024  
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343  
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046  
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311  
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111  
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377  
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333  
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326  
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333  
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210  
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264  
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052

```
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342
\016\265\271\276\044\217
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Network CA 2"

# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

# Not Valid Before: Thu Oct 06 08:39:56 2011

# Not Valid After : Sat Oct 06 08:39:56 2046

# Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Network CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
```

```
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124  
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103  
\101\040\062
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022  
\215\351
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions RootCA 2015"

#

# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research  
Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:11:21 2015

# Not Valid After : Sat Jun 30 10:11:21 2040

# Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003  
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157  
\157\164\103\101\040\062\060\061\065
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
```

\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003  
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157  
\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\013\060\202\003\363\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163  
\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164  
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023  
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155  
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040  
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157  
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067  
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063  
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125\004  
\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125  
\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143\141  
\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162  
\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040  
\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171\061  
\100\060\076\006\003\125\004\003\023\067\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\122\157\157\164\103\101\040\062\060\061  
\065\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\302\370\251\077\033\211\374\074\074\004\135\075\220\066  
\260\221\072\171\074\146\132\357\155\071\001\111\032\264\267\317  
\177\115\043\123\267\220\000\343\023\052\050\246\061\361\221\000  
\343\050\354\256\041\101\316\037\332\375\175\022\133\001\203\017  
\271\260\137\231\341\362\022\203\200\115\006\076\337\254\257\347  
\241\210\153\061\257\360\213\320\030\063\270\333\105\152\064\364

\002\200\044\050\012\002\025\225\136\166\052\015\231\072\024\133  
\366\313\313\123\274\023\115\001\210\067\224\045\033\102\274\042  
\330\216\243\226\136\072\331\062\333\076\350\360\020\145\355\164  
\341\057\247\174\257\047\064\273\051\175\233\266\317\011\310\345  
\323\012\374\210\145\145\164\012\334\163\034\134\315\100\261\034  
\324\266\204\214\114\120\317\150\216\250\131\256\302\047\116\202  
\242\065\335\024\364\037\377\262\167\325\207\057\252\156\175\044  
\047\347\306\313\046\346\345\376\147\007\143\330\105\015\335\072  
\131\145\071\130\172\222\231\162\075\234\204\136\210\041\270\325  
\364\054\374\331\160\122\117\170\270\275\074\053\213\225\230\365  
\263\321\150\317\040\024\176\114\134\137\347\213\345\365\065\201  
\031\067\327\021\010\267\146\276\323\112\316\203\127\000\072\303  
\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352  
\172\110\101\375\105\031\006\255\047\231\116\301\160\107\335\265  
\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172  
\143\226\113\051\060\116\204\116\142\031\136\074\316\227\220\245  
\177\001\353\235\340\370\213\211\335\045\230\075\222\266\176\357  
\331\361\121\121\175\055\046\310\151\131\141\340\254\152\270\052  
\066\021\004\172\120\275\062\204\276\057\334\162\325\327\035\026  
\107\344\107\146\040\077\364\226\305\257\216\001\172\245\017\172  
\144\365\015\030\207\331\256\210\325\372\204\301\072\300\151\050  
\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213  
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040  
\231\111\031\266\022\106\261\373\105\125\026\251\243\145\254\234  
\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333  
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027  
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135  
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165  
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010  
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265  
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144  
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010  
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126  
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041  
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055  
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343  
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164  
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225  
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142  
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117  
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232  
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026  
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214  
\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341

```
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hellenic Academic and Research Institutions RootCA 2015"
```

```
# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Not Valid Before: Tue Jul 07 10:11:21 2015
```

```
# Not Valid After : Sat Jun 30 10:11:21 2040
```

```
# Fingerprint (SHA-256):
```

```
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
```

```
# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352
\051\351\022\246
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
```



```
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\000
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

#

# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Serial Number: 0 (0x0)

# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

# Not Valid Before: Tue Jul 07 10:37:12 2015

# Not Valid After : Sat Jun 30 10:37:12 2040

# Fingerprint (SHA-256):

```
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
```

# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122  
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156  
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154  
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156  
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151  
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165  
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003  
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145  
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150  
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103  
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000  
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061  
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015  
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060  
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162  
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145  
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040  
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163  
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157  
\157\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060  
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066  
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011  
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125  
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003  
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171  
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145  
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144  
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164  
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103  
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316  
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240  
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045  
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153

```
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"
```

```
# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR
```

```
# Not Valid Before: Tue Jul 07 10:37:12 2015
```

```
# Not Valid After : Sat Jun 30 10:37:12 2040
```

```
# Fingerprint (SHA-256):
```

```
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
```

```
# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
```

```
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\000
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ISRG Root X1"

#

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

# Not Valid Before: Thu Jun 04 11:04:38 2015

# Not Valid After : Mon Jun 04 11:04:38 2035

# Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
```

\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143  
\202\213\000  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000  
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051  
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145  
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141  
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125  
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061  
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070  
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132  
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034  
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165  
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104  
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176  
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232  
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255  
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224  
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157  
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003  
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026  
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173  
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023  
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207  
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064  
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320  
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002  
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016  
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326  
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057  
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254  
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335  
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247  
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121

\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163  
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347  
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060  
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272  
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360  
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152  
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367  
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210  
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063  
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001  
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125  
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051  
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113  
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140  
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340  
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220  
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357  
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372  
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212  
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211  
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267  
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071  
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206  
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211  
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053  
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025  
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327  
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102  
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114  
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123  
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134  
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171  
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055  
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152  
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055  
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334  
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300  
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044  
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172  
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335  
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006  
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137  
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "ISRG Root X1"
# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Not Valid Before: Thu Jun 04 11:04:38 2015
# Not Valid After : Mon Jun 04 11:04:38 2035
# Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AC RAIZ FNMT-RCM"
#
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

```

```
# Not Valid Before: Wed Oct 29 15:59:56 2008
# Not Valid After : Tue Jan 01 00:00:00 2030
# Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301
```



\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076  
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063  
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243  
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012  
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105  
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217  
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005  
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231  
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136  
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034  
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002  
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120  
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171  
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013  
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356  
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161  
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173  
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123  
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302  
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222  
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143  
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354  
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166  
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007  
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313  
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255  
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257  
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203  
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367  
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207  
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063  
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005  
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167  
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160  
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303  
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376  
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023  
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165  
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367  
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133  
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014  
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047  
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346  
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137  
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372

```
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121
\072\117\110\366\213\266\263
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AC RAIZ FNMT-RCM"
```

```
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
```

```
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
```

```
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
```

```
# Not Valid Before: Wed Oct 29 15:59:56 2008
```

```
# Not Valid After : Tue Jan 01 00:00:00 2030
```

```
# Fingerprint (SHA-256):
```

```
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
```

```
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
```

```
\054\114\054\040
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 1"
#
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sun Jan 17 00:00:00 2038
# Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312

```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006  
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066  
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157  
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172  
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015  
\061\065\060\065\062\066\060\060\060\060\060\132\027\015\063  
\070\060\061\061\067\060\060\060\060\060\132\060\071\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006  
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027  
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157  
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060  
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343  
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367  
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172  
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114  
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336  
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344  
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260  
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120  
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226  
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272  
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164  
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062  
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113  
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157  
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234  
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046  
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314  
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012  
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121  
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060  
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310  
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174  
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030  
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054  
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355  
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370  
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357  
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255

```
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 1"
```

```
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
```

```
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sun Jan 17 00:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
```

```
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Amazon Root CA 2"
#
# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
# Subject: CN=Amazon Root CA 2,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064
\060\060\065\062\066\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052
```

\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112  
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374  
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204  
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331  
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222  
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015  
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340  
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232  
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277  
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112  
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000  
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112  
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153  
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354  
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117  
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236  
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053  
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001  
\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321  
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063  
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263  
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143  
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313  
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236  
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063  
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003  
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011  
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072  
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201  
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010  
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010  
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225  
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060  
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360  
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146  
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315  
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366  
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131  
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240  
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030  
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003  
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317  
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022  
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030

```
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323
\340\373\011\140\154
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 2"
```

```
# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
```

```
# Subject: CN=Amazon Root CA 2,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sat May 26 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
```

```
# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```



\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370

\133\046\273\212\067

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Amazon Root CA 3"

#

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4

# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Amazon Root CA 3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

\156\040\122\157\157\164\040\103\101\040\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350  
\236\166\003\362\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006  
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003  
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002  
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051  
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245  
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163  
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150  
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253  
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031  
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003  
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053  
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170  
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234  
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214  
\143\044\110\034\337\060\175\325\150\073

END

CKA\_NSS\_Mozilla\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Amazon Root CA 3"

# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

# Subject: CN=Amazon Root CA 3,O=Amazon,C=US

# Not Valid Before: Tue May 26 00:00:00 2015

# Not Valid After : Sat May 26 00:00:00 2040

# Fingerprint (SHA-256):

18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4

# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 4"
#
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156  
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157  
\156\040\122\157\157\164\040\103\101\040\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173  
\054\310\032\301\016

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006  
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032  
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060  
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031  
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040  
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060  
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065  
\062\066\060\060\060\060\060\060\132\060\071\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004  
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125  
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040  
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002  
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067  
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142  
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360  
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026  
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144  
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142  
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072  
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201  
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060  
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057  
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160  
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065  
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221  
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226  
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265  
\012\166\324\245\274\020

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "Amazon Root CA 4"
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):

```

```
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143
```

\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327  
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203  
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001  
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375  
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050  
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100  
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174  
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307  
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237  
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333  
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047  
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254  
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021  
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217  
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065  
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362  
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132  
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027  
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253  
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007  
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217  
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257  
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024  
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320  
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164  
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205  
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263  
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126

\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104  
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100  
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013  
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043  
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364  
\322\063\340\377\275\321\124\071\051\017

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER MULTILINE\_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Symantec Class 1 Public Primary Certification Authority - G6"

# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US

# Not Valid Before: Tue Oct 18 00:00:00 2011

# Not Valid After : Tue Dec 01 23:59:59 2037

# Fingerprint (SHA-256):

9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9

# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303  
\314\123\155\144

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156  
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061  
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164  
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153  
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066



```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Symantec Class 2 Public Primary Certification Authority - G6"
#
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153

```

\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156  
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261  
\377\101

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144  
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035  
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145  
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060  
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105  
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145  
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060  
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063  
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024  
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141  
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123  
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074  
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062  
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351  
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147  
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023  
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256  
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154  
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326  
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326  
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061  
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341  
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000  
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262  
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061

\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137  
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215  
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322  
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137  
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064  
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226  
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301  
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000  
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013  
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366  
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156  
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266  
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160  
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356  
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275  
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113  
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231  
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246  
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035  
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326  
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376  
\157\374\132\344\202\125\131\257\061\251

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
# For Email Distrust After: Wed Aug 31 00:00:00 2022  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL  
\062\062\060\070\063\061\060\060\060\060\060\060\132

END

# Trust for "Symantec Class 2 Public Primary Certification Authority - G6"  
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US  
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41  
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust  
Network,O=Symantec Corporation,C=US  
# Not Valid Before: Tue Oct 18 00:00:00 2011  
# Not Valid After : Tue Dec 01 23:59:59 2037  
# Fingerprint (SHA-256):  
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0  
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
\121\324\035\217
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root CA 3 2013"
#
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014  
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101  
\040\063\040\062\060\061\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014  
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101  
\040\063\040\062\060\061\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\003\017\335\254

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017  
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165  
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003  
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103  
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071  
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062  
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003  
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012  
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037  
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124  
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337  
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341  
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046  
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154  
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340  
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011  
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274  
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323  
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352  
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121  
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075  
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256  
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077  
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357

\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174  
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263  
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035  
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157  
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276  
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240  
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164  
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057  
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157  
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061  
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155  
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143  
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163  
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057  
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057  
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164  
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234  
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237  
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317  
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175  
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040  
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065  
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210  
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157  
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246  
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303  
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115  
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223  
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113  
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147  
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155  
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111  
\137\134

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST Root CA 3 2013"  
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE  
# Serial Number: 1039788 (0xfddac)  
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE  
# Not Valid Before: Fri Sep 20 08:25:51 2013  
# Not Valid After : Wed Sep 20 08:25:51 2028

```

# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Serial Number: 1 (0x1)
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Not Valid Before: Mon Nov 25 08:25:55 2013
# Not Valid After : Sun Oct 25 08:25:55 2043
# Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145  
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003  
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154  
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157  
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165  
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055  
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145  
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153  
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060  
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040  
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040  
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165  
\162\165\155\040\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122  
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\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003  
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154  
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157  
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165  
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055  
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145  
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153  
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060  
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040  
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040  
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165  
\162\165\155\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040  
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125  
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151  
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152  
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162  
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060  
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162



\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145  
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064  
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113  
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123  
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162  
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070  
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062  
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006  
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107  
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102  
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145  
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153  
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155  
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124  
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155  
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040  
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123  
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111  
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040  
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040  
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273  
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377  
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372  
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253  
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154  
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320  
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153  
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000  
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116  
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227  
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332  
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311  
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177  
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054  
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352  
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037  
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077  
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107  
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230  
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175  
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341  
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260

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\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Serial Number: 1 (0x1)

# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

# Not Valid Before: Mon Nov 25 08:25:55 2013

# Not Valid After : Sun Oct 25 08:25:55 2014

# Fingerprint (SHA-256):

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16

# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
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\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GDCA TrustAUTH R5 ROOT"

#

# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Serial Number:7d:09:97:fe:f0:47:ea:7a

# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY  
CO.,LTD.",C=CN

# Not Valid Before: Wed Nov 26 05:13:15 2014

# Not Valid After : Mon Dec 31 15:59:59 2040

# Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
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\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040  
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105  
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114  
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104  
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040  
\122\117\117\124

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\175\011\227\376\360\107\352\172

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175  
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004  
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051  
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111  
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131  
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125  
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125  
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064  
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061  
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011  
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125  
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103  
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117  
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060  
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165  
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202  
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331  
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374  
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143  
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311  
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127  
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143  
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072  
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032  
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256  
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357  
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214  
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043  
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020  
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064  
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146  
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144  
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275  
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166  
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247

\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011  
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017  
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227  
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040  
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244  
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245  
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355  
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202  
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271  
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177  
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000  
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155  
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032  
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002  
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004  
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077  
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340  
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021  
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062  
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146  
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267  
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347  
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371  
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066  
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223  
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362  
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160  
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067  
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337  
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115  
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057  
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340  
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202  
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320  
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050  
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367  
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163  
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125  
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223  
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375  
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220  
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374  
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061  
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352  
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373

```
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GDCA TrustAUTH R5 ROOT"
```

```
# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
```

```
# Serial Number:7d:09:97:fe:f0:47:ea:7a
```

```
# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
```

```
# Not Valid Before: Wed Nov 26 05:13:15 2014
```

```
# Not Valid After : Mon Dec 31 15:59:59 2040
```

```
# Fingerprint (SHA-256):
```

```
BF:FF:8F:DO:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
```

```
# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\175\011\227\376\360\107\352\172
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "TrustCor RootCert CA-1"
#
# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:00:da:9b:ec:71:f3:03:b0:19
# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:16 2016
# Not Valid After : Mon Dec 31 17:23:16 2029
# Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\011\000\332\233\354\161\363\003\260\031

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000  
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206  
\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003  
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010  
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044  
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157  
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040  
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124  
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143  
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060  
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162  
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036  
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027  
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201  
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017  
\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061  
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141  
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033  
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163  
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006  
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124  
\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164  
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063  
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173  
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235  
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034  
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265  
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325  
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044  
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264  
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236  
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220  
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330  
\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225  
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132  
\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020  
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326  
\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334  
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060  
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077



\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037  
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172  
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003  
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123  
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134  
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110  
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162  
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345  
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237  
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072  
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224  
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031  
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144  
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027  
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154  
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024  
\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167  
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115  
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074  
\132\171\054\031

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor RootCert CA-1"

# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Serial Number:00:da:9b:ec:71:f3:03:b0:19

# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:16 2016

# Not Valid After : Mon Dec 31 17:23:16 2029

# Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072
\105\133\303\012
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\332\233\354\161\363\003\260\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor RootCert CA-2"
#
# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:25:a1:df:ca:33:cb:59:02
# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:23 2016
# Not Valid After : Sun Dec 31 17:26:39 2034
# Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014  
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145  
\162\164\040\103\101\055\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141  
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\130\047\135\277\370\053\140\254\240\046\256\024\041\047\306\167  
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\274\233\075\234\175\230\040\031\345\214\060\142\262\060\037\006  
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\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376  
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\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117  
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070  
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\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRUSTRUST\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

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# Trust for "TrustCor RootCert CA-2"
# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:25:a1:df:ca:33:cb:59:02
# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:23 2016
# Not Valid After : Sun Dec 31 17:26:39 2034
# Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307
\224\262\034\300
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144
END
CKA_ISSUER MULTILINE_OCTAL
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\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
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\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
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\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor ECA-1"
#
# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama

```

City,ST=Panama,C=PA  
# Serial Number:00:84:82:2c:5f:1c:62:d0:40  
# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama  
City,ST=Panama,C=PA  
# Not Valid Before: Thu Feb 04 12:32:33 2016  
# Not Valid After : Mon Dec 31 17:28:07 2029  
# Fingerprint (SHA-256):  
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C  
# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "TrustCor ECA-1"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
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\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
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\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003  
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\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004  
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\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060  
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\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366  
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231  
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260  
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105  
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312  
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154  
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164  
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350  
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252  
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110  
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140  
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133  
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242  
\264\237\327\346

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_SERVER\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER MULTILINE\_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

# Trust for "TrustCor ECA-1"

# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama  
City,ST=Panama,C=PA

# Serial Number:00:84:82:2c:5f:1c:62:d0:40

# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama  
City,ST=Panama,C=PA

# Not Valid Before: Thu Feb 04 12:32:33 2016

# Not Valid After : Mon Dec 31 17:28:07 2029

# Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TrustCor ECA-1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204  
\013\310\170\275

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101  
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155  
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141  
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012  
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145  
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060  
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014  
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com Root Certification Authority RSA"

#

# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:7b:2c:9b:d3:16:80:32:99

# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 17:39:39 2016

# Not Valid After : Tue Feb 12 17:39:39 2041

# Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061  
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157  
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040  
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006  
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157  
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173  
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005  
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007  
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012  
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157  
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056  
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067  
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063  
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145  
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157  
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017  
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157  
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205  
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221  
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026  
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375  
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227  
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154  
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035  
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002  
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241  
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370  
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067

\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307  
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331  
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341  
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070  
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050  
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305  
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072  
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003  
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304  
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236  
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047  
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134  
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344  
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276  
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274  
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313  
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033  
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046  
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170  
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042  
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242  
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003  
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122  
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003  
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172  
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006  
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001  
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225  
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374  
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030  
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134  
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330  
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001  
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054  
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161  
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004  
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177  
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016  
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030  
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064  
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017  
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164  
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353  
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101  
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261  
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010

```
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047
\271
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SSL.com Root Certification Authority RSA"
```

```
# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
```

```
# Serial Number:7b:2c:9b:d3:16:80:32:99
```

```
# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
```

```
# Not Valid Before: Fri Feb 12 17:39:39 2016
```

```
# Not Valid After : Tue Feb 12 17:39:39 2041
```

```
# Fingerprint (SHA-256):
```

```
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
```

```
# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
```

\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com Root Certification Authority ECC"

#

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

# Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061

\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157

\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040

\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006

\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157

\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061

\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157

\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040

\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006

\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157

\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
```

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com Root Certification Authority ECC"

# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:75:e6:df:cb:c1:68:5b:a8

# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:14:03 2016

# Not Valid After : Tue Feb 12 18:14:03 2041

# Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303

\016\023\002\152

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061

\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157

\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040

\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006

\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157

\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\165\346\337\313\301\150\133\250

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "SSL.com EV Root Certification Authority RSA R2"

#

# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL



Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Wed May 31 18:14:37 2017

# Not Valid After : Fri May 30 18:14:37 2042

# Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065  
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105  
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\040\122\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163  
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164  
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114  
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065  
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105  
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122  
\123\101\040\122\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\126\266\051\315\064\274\170\366

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126  
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014  
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014  
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004  
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151  
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114  
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162

\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061  
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062  
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006  
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006  
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060  
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160  
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003  
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352  
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206  
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050  
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237  
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235  
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242  
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132  
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253  
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124  
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175  
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322  
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136  
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021  
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212  
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041  
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000  
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354  
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107  
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220  
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125  
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354  
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025  
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002  
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201  
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016  
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156  
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354  
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256  
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071  
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304  
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230  
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365  
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125

\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366  
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003  
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270  
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126  
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121  
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377  
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371  
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305  
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125  
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040  
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214  
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327  
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014  
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150  
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342  
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263  
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233  
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306  
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355  
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135  
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312  
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046  
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224  
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155  
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212  
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203  
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261  
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020  
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141  
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103  
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042  
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065  
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027  
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073  
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356  
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority RSA R2"

# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:56:b6:29:cd:34:bc:78:f6

# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL

Corporation,L=Houston,ST=Texas,C=US

```

# Not Valid Before: Wed May 31 18:14:37 2017
# Not Valid After : Fri May 30 18:14:37 2042
# Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority ECC"
#
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:2c:29:9c:5b:16:ed:05:95
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:15:23 2016
# Not Valid After : Tue Feb 12 18:15:23 2041
# Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
```

\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061  
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157  
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107  
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006  
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000  
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336  
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134  
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056  
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060  
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345  
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312  
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227  
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150  
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331  
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373  
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166  
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140  
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045  
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250  
\371\007\340\142\232\214\134\112

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "SSL.com EV Root Certification Authority ECC"

# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Serial Number:2c:29:9c:5b:16:ed:05:95

# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

# Not Valid Before: Fri Feb 12 18:15:23 2016

# Not Valid After : Tue Feb 12 18:15:23 2041

# Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221

\307\106\102\155

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\054\051\234\133\026\355\005\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R6"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Not Valid Before: Wed Dec 10 00:00:00 2014
# Not Valid After : Sun Dec 10 00:00:00 2034
# Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040  
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107  
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125  
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105  
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006  
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040  
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064  
\061\062\061\060\060\060\060\060\060\060\132\027\015\063\064\061  
\062\061\060\060\060\060\060\060\060\132\060\114\061\040\060\036  
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023  
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123  
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154  
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371  
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110  
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052  
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024  
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144  
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170  
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032  
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103  
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276  
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143  
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160  
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377  
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112  
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260  
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220  
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030  
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127  
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340  
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104  
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066  
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026



\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355  
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341  
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300  
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165  
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047  
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060  
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323  
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130  
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214  
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204  
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036  
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143  
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154  
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147  
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256  
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310  
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315  
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350  
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267  
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255  
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170  
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243  
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265  
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035  
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332  
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343  
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106  
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171  
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337  
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173  
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257  
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163  
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250  
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002  
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151  
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353  
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154  
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354  
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226  
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005  
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257  
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241  
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342  
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321  
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146

```
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "GlobalSign Root CA - R6"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

# Not Valid Before: Wed Dec 10 00:00:00 2014

# Not Valid After : Sun Dec 10 00:00:00 2034

# Fingerprint (SHA-256):

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69

# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "OISTE WISeKey Global Root GC CA"

#

```
# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Tue May 09 09:48:34 2017
# Not Valid After : Fri May 09 09:58:33 2042
# Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067
```

\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060  
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011  
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125  
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006  
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156  
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061  
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040  
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122  
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342  
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303  
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202  
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026  
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065  
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061  
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323  
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325  
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122  
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155  
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040  
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215  
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302  
\242\355\357\173\260\200\117\130\017\113\123\071\275

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "OISTE WISEKey Global Root GC CA"

# Issuer: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea

# Subject: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

# Not Valid Before: Tue May 09 09:48:34 2017

# Not Valid After : Fri May 09 09:58:33 2042

# Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "OISTE WISEKey Global Root GC CA"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Global G2 Root"
#
# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 11 00:00:00 2016
# Not Valid After : Mon Dec 31 00:00:00 2040
# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165  
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101  
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003  
\220\357

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135  
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075  
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060  
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164  
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107  
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027  
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015  
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061  
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017  
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061  
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154  
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053  
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232  
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114  
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275  
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165  
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016  
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346  
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150  
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130  
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321  
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207  
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206  
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334  
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350  
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262  
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043  
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057  
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307  
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330  
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101  
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112  
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257

\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303  
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153  
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345  
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203  
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107  
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172  
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104  
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106  
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317  
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246  
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001  
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025  
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053  
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043  
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313  
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004  
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071  
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144  
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303  
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345  
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216  
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332  
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024  
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015  
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200  
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325  
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304  
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243  
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343  
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024  
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365  
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233  
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253  
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243  
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240  
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027  
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024  
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310  
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270  
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124  
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262  
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105  
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042  
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327

```

\120\037\212\373\006\365\302\031\360\320
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "UCA Global G2 Root"
# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 11 00:00:00 2016
# Not Valid After : Mon Dec 31 00:00:00 2040
# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Extended Validation Root"
#
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

```



```
# Not Valid Before: Fri Mar 13 00:00:00 2015
# Not Valid After : Fri Dec 31 00:00:00 2038
# Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061
\063\060\060\060\060\060\060\132\027\015\063\070\061\062\063\061
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172
```

\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040  
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273  
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174  
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322  
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037  
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367  
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051  
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171  
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331  
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144  
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163  
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241  
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342  
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246  
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350  
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143  
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210  
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314  
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363  
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007  
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160  
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177  
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232  
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111  
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106  
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120  
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020  
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054  
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361  
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202  
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003  
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176  
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215  
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054  
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256  
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021  
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111  
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332  
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220  
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224  
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144  
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071  
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374  
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123

```
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255
\177\275\145\040\262\311\301\053\166\030\166\237\126\261
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "UCA Extended Validation Root"
```

```
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
```

```
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
```

```
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
```

```
# Not Valid Before: Fri Mar 13 00:00:00 2015
```

```
# Not Valid After : Fri Dec 31 00:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
```

```
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "UCA Extended Validation Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377
\335\360\327\072
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certigna Root CA"

#

# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

# Not Valid Before: Tue Oct 01 08:32:27 2013

# Not Valid After : Sat Oct 01 08:32:27 2033

# Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certigna Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304  
\343\246\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000  
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022  
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164  
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060  
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066  
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151  
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061  
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063  
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060  
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003  
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034  
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070  
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027  
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040  
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352  
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357  
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016  
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333  
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134  
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114  
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050  
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055  
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356  
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302  
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335  
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146  
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017  
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315  
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041  
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032  
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055  
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337  
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367  
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333  
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063  
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304  
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026  
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223

\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232  
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175  
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144  
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253  
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105  
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271  
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304  
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060  
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001  
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326  
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026  
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037  
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060  
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053  
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057  
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146  
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003  
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150  
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147  
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157  
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053  
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171  
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156  
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224  
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325  
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313  
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241  
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323  
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106  
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034  
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067  
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372  
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171  
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145  
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001  
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341  
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172  
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142  
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216  
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030  
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065  
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053  
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324  
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357

```
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certigna Root CA"
```

```
# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
```

```
# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
```

```
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
```

```
# Not Valid Before: Tue Oct 01 08:32:27 2013
```

```
# Not Valid After : Sat Oct 01 08:32:27 2033
```

```
# Fingerprint (SHA-256):
```

```
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
```

```
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certigna Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
```

```
\047\047\365\103
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
```

```
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
```

```
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
```

```
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
```

```
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
```

```
\151\147\156\141\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
```

\343\246\341

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign Root CA - G1"

#

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - G1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\107\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061



\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110  
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003  
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013  
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043  
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124  
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151  
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034  
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157  
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032  
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157  
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146  
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063  
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274  
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232  
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116  
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160  
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365  
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052  
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262  
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035  
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114  
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057  
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170  
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355  
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343  
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024  
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373  
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360  
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161  
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141  
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027  
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314  
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127  
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031  
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235  
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175

```
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - G1"

# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
```

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\012\061\365\344\142\014\154\130\355\326\330
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "emSign ECC Root CA - G3"

#

# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145  
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147  
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074  
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110  
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006  
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145

\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125  
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150  
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144  
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060  
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060  
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111  
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151  
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023  
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154  
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060  
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105  
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363  
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064  
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124  
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316  
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222  
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062  
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201  
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276  
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057  
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201  
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002  
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173  
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303  
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004  
\054\243

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - G3"

# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign Root CA - C1"
#
# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2
# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - C1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003  
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164  
\040\103\101\040\055\040\103\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003  
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164  
\040\103\101\040\055\040\103\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000  
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004  
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060  
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040  
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155  
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103  
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006  
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157  
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231  
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117  
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171  
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331  
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257  
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163  
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107  
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070  
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137  
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307  
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316  
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026

\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234  
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064  
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211  
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265  
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241  
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252  
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242  
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154  
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073  
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370  
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360  
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170  
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047  
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350  
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306  
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124  
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056  
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023  
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226  
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000  
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250  
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341  
\361\337\312\276\203\015\102

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign Root CA - C1"

# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign Root CA - C1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121

```

\313\206\117\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
END
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign ECC Root CA - C3"
#
# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```



\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003  
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173  
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110  
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145  
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125  
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061  
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156  
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103  
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060\060  
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060  
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147  
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013  
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006  
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103  
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042  
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257  
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351  
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142  
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223  
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370  
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016  
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007  
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057  
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034  
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312  
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034  
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111  
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177  
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "emSign ECC Root CA - C3"

# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

# Not Valid Before: Sun Feb 18 18:30:00 2018

# Not Valid After : Wed Feb 18 18:30:00 2043

# Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "emSign ECC Root CA - C3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025  
\014\356\110\146

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325  
END

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156  
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145  
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003  
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040  
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250  
END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Hongkong Post Root CA 3"

#

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

```
# Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002
```

\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156  
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023  
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003  
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157  
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156  
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040  
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326  
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307  
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116  
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215  
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111  
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210  
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357  
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345  
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125  
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050  
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243  
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230  
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315  
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105  
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230  
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251  
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311  
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355  
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023  
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243  
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133  
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010  
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143  
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376  
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321  
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044  
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012  
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064  
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127  
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243  
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067  
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032  
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036  
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141  
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213  
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202

\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016  
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306  
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364  
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044  
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244  
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340  
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071  
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353  
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103  
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015  
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344  
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210  
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232  
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122  
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347  
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164  
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146  
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163  
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265  
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076  
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237  
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210  
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234  
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306  
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352  
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317  
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244  
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111  
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132  
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033  
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062  
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006  
\232\233\364

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Hongkong Post Root CA 3"

# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

# Not Valid Before: Sat Jun 03 02:29:46 2017

# Not Valid After : Tue Jun 03 02:29:46 2042

# Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - G4"
#
# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58
# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Wed May 27 11:11:16 2015
# Not Valid After : Sun Dec 27 11:41:16 2037
# Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88
# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125  
\145\255\130

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000  
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163  
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013  
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155  
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040  
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156  
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151

\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060  
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064  
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066  
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132  
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165  
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165  
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162  
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051  
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111  
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060  
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040  
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055  
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031  
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037  
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274  
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304  
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020  
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004  
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043  
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336  
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065  
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014  
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132  
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047  
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323  
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351  
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252  
\004\232\036\270\334\210\156\045\263\154\146\367\074\220\363\127  
\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152  
\366\346\147\007\276\054\147\012\052\037\132\262\076\127\304\323  
\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000  
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141  
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361  
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146  
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005  
\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334  
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374  
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332  
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362



\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045  
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332  
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067  
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143  
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240  
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022  
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045  
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363  
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322  
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364  
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211  
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253  
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377  
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344  
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177  
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056  
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234  
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210  
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216  
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207  
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360  
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307  
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136  
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176  
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330  
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002  
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244  
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166  
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062  
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245  
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072  
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101  
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244  
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273  
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061  
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230  
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332  
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

# Trust for "Entrust Root Certification Authority - G4"

# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

```
# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58
# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Wed May 27 11:11:16 2015
# Not Valid After : Sun Dec 27 11:41:16 2037
# Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88
# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065
\051\272\226\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsoft ECC Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 23:06:45 2019
# Not Valid After : Fri Jul 18 23:16:04 2042
# Fingerprint (SHA-256):
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
# Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060
```

\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162  
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157  
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162  
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103  
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157  
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052  
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000  
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121  
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121  
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171  
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231  
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033  
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170  
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052  
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067  
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371  
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325  
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066  
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026  
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001  
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153  
\124\026\040\377\053\265\347\114\014\115\246\117\163

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Microsoft ECC Root Certificate Authority 2017"  
# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US  
# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec  
# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US  
# Not Valid Before: Wed Dec 18 23:06:45 2019  
# Not Valid After : Fri Jul 18 23:16:04 2042  
# Fingerprint (SHA-256):  
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02  
# Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140

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\356\304\303\305
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsoft RSA Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 22:51:22 2019
# Not Valid After : Fri Jul 18 23:00:23 2042
# Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163  
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163  
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\040\062\060\061\067

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177  
\105\263

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036  
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060  
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146  
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060  
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146  
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171  
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062  
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063  
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115  
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141  
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115  
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165  
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276  
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231  
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147  
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234  
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364  
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113  
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351  
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265  
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256  
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262  
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146  
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170  
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202

\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311  
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376  
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211  
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034  
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205  
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242  
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206  
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023  
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321  
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272  
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042  
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254  
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012  
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256  
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036  
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007  
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362  
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124  
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220  
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001  
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331  
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135  
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102  
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115  
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071  
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202  
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204  
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225  
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272  
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063  
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075  
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341  
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211  
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126  
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166  
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155  
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115  
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367  
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056  
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147  
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221  
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301  
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245

```
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Microsoft RSA Root Certificate Authority 2017"
```

```
# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
```

```
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Not Valid Before: Wed Dec 18 22:51:22 2019
```

```
# Not Valid After : Fri Jul 18 23:00:23 2042
```

```
# Fingerprint (SHA-256):
```

```
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
```

```
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
```



```

\105\263
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "e-Szigno Root CA 2017"
#
# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Aug 22 12:07:06 2017
# Not Valid After : Fri Aug 22 12:07:06 2042
# Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001  
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052  
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125  
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014  
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125  
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144  
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110  
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003  
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157  
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067  
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060  
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011  
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125  
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024  
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040  
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126  
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060  
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157  
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060  
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316  
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157  
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204  
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275  
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207  
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170  
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003  
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301  
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006  
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041  
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150  
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154  
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374  
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131  
\371\347\334\061

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "e-Szigno Root CA 2017"

# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

# Not Valid Before: Tue Aug 22 12:07:06 2017

```

# Not Valid After : Fri Aug 22 12:07:06 2042
# Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN Root CA G2"
#
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Not Valid Before: Mon Feb 06 09:27:35 2017
# Not Valid After : Thu Feb 06 09:27:35 2042
# Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143
```

\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254  
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127  
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315  
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226  
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121  
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012  
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117  
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310  
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337  
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205  
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146  
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201  
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361  
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067  
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117  
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062  
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132  
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240  
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202  
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270  
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003  
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011  
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347  
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352  
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344  
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036  
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002  
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113  
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144  
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045  
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365  
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041  
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364  
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013  
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206  
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234  
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315  
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045  
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344  
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071  
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202  
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016  
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230  
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003

```
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027
\101\020\135\047\163\140\205\127\111\042\007
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "certSIGN Root CA G2"
```

```
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
```

```
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
```

```
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
```

```
# Not Valid Before: Mon Feb 06 09:27:35 2017
```

```
# Not Valid After : Thu Feb 06 09:27:35 2042
```

```
# Fingerprint (SHA-256):
```

```
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
```

```
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "certSIGN Root CA G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\021\000\064\266\116\306\066\055\066
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Trustwave Global Certification Authority"

#

# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2

# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US

# Not Valid Before: Wed Aug 23 19:34:12 2017

# Not Valid After : Sat Aug 23 19:34:12 2042

# Fingerprint (SHA-256):

97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8

# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Trustwave Global Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156  
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150  
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030  
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156  
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004  
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157  
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\014\005\367\016\206\332\111\363\106\065\056\272\262

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005  
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052  
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003  
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060  
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061  
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167  
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165  
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061  
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071  
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010  
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004  
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003  
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110  
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060  
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166  
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315  
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076  
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347  
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030  
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321  
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156  
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334  
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200  
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374  
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363  
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234  
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226  
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064  
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307  
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117  
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033  
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051  
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145  
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024  
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116  
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360  
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014



\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246  
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164  
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343  
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330  
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234  
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254  
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006  
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147  
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370  
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066  
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332  
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163  
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226  
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075  
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344  
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336  
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053  
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365  
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020  
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341  
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124  
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101  
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040  
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121  
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304  
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271  
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217  
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323  
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321  
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072  
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036  
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363  
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354  
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141  
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162  
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166  
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174  
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200  
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242  
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075  
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060  
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026  
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312  
\311\340\266\234\351\316\161\161\336\154\077\026\244\171

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Trustwave Global Certification Authority"
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

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# Certificate "Trustwave Global ECC P256 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:35:10 2017
# Not Valid After : Sat Aug 23 19:35:10 2042
# Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015

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\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052  
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010  
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003  
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037  
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145  
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061  
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167  
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120  
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062  
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206  
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343  
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122  
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015  
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344  
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000  
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220  
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060  
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104  
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266  
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041  
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145  
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314  
\234\341\164\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P256 Certification Authority"  
# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US  
# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d  
# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,

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Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:35:10 2017
# Not Valid After : Sat Aug 23 19:35:10 2042
# Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global ECC P384 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:36:43 2017
# Not Valid After : Sat Aug 23 19:36:43 2042

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# Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
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\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061  
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062  
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006  
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020  
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157  
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164  
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111  
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162  
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105  
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005  
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203  
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011  
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224  
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214  
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105  
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003  
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006  
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275  
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010  
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067  
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120  
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302  
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002  
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376  
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053  
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156  
\113

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Trustwave Global ECC P384 Certification Authority"  
# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US  
# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b  
# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,  
Inc.",L=Chicago,ST=Illinois,C=US  
# Not Valid Before: Wed Aug 23 19:36:43 2017  
# Not Valid After : Sat Aug 23 19:36:43 2042  
# Fingerprint (SHA-256):  
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

```
# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "NAVER Global Root Certification Authority"
#
# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d
# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
# Not Valid Before: Fri Aug 18 08:58:42 2017
# Not Valid After : Tue Aug 18 23:59:59 2037
# Fingerprint (SHA-256):
88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65
# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```



CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL  
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104  
\161\370\326\120\115\015

END

CKA\_VALUE MULTILINE\_OCTAL  
\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001  
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326  
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014  
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113  
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105  
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106  
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125  
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154  
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027  
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015  
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061  
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044  
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123  
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103  
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116  
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100  
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326

\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173  
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207  
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372  
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313  
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104  
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001  
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367  
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263  
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161  
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105  
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017  
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270  
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014  
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052  
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065  
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367  
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337  
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217  
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101  
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206  
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224  
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361  
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250  
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072  
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031  
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332  
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112  
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026  
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212  
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002  
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102  
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210  
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140  
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005  
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322  
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015  
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226  
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073  
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143  
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023  
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003  
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246  
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025  
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332  
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213  
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341

```
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245
\365\165\336\211\367\162
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "NAVER Global Root Certification Authority"

# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

# Not Valid Before: Fri Aug 18 08:58:42 2017

# Not Valid After : Tue Aug 18 23:59:59 2037

# Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

#

# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Not Valid Before: Thu Dec 20 09:37:33 2018

# Not Valid After : Sun Dec 20 09:37:33 2043

# Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061  
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122  
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162  
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124  
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052  
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106  
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122  
\105\123\040\123\105\107\125\122\117\123

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056  
\235\225

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142  
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060  
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003  
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060  
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060  
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062  
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003  
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122  
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105  
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060  
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071  
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106  
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013  
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141  
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064  
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122  
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122  
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066  
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307  
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307  
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054  
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257  
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012  
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003  
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362  
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052  
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256  
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032

```
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162
\277\347
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-  
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

# Not Valid Before: Thu Dec 20 09:37:33 2018

# Not Valid After : Sun Dec 20 09:37:33 2043

# Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GlobalSign Secure Mail Root R45"

#

# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Secure Mail Root R45"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\122\064\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\122\064\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217  
\127\334

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166  
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122  
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060

\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151  
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004  
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145  
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122  
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060  
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060  
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046  
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147  
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157  
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202  
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340  
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133  
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333  
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073  
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132  
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225  
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372  
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363  
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047  
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235  
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230  
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367  
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270  
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335  
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206  
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362  
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122  
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366  
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335  
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012  
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120  
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306  
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151  
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316  
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153  
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237  
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017  
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174  
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216  
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077  
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201  
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205  
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001



\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050  
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173  
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003  
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266  
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146  
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276  
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300  
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254  
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043  
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265  
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343  
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336  
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124  
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201  
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017  
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176  
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141  
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007  
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320  
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172  
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237  
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246  
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262  
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031  
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072  
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256  
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252  
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157  
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136  
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201  
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016  
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172  
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241  
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102  
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362  
\263\301\366\074

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Secure Mail Root R45"

# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Serial Number: 76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 18 00:00:00 2020

# Not Valid After : Sat Mar 18 00:00:00 2045

# Fingerprint (SHA-256):

```

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Secure Mail Root E45"
#
# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
# Serial Number: 76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\105\064\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003  
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040  
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164  
\040\105\064\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270  
\220\012

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166  
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060  
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060  
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003  
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040  
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037  
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162  
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060  
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\132  
\027\015\064\065\060\063\061\070\060\060\060\060\060\132\060  
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031  
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123  
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125  
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123  
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040  
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001  
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107  
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300  
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157  
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104  
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157  
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210  
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137

```
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Secure Mail Root E45"
```

```
# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
```

```
# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Wed Mar 18 00:00:00 2020
```

```
# Not Valid After : Sat Mar 18 00:00:00 2045
```

```
# Fingerprint (SHA-256):
```

```
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
```

```
# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GlobalSign Root R46"

#

# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root R46"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\122\064\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320  
\337\045\147\321

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021  
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147  
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000  
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040

\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063  
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062  
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003  
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012  
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055  
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157  
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211  
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211  
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023  
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143  
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006  
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154  
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027  
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235  
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332  
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063  
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050  
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021  
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130  
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204  
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075  
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173  
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205  
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370  
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043  
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004  
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155  
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073  
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215  
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106  
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346  
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354  
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154  
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061  
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232  
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252  
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375  
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002  
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246  
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170  
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242

\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116  
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140  
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314  
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166  
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142  
\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115  
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241  
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044  
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076  
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351  
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105  
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265  
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156  
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355  
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366  
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263  
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244  
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102  
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323  
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371  
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127  
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150  
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317  
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224  
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242  
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072  
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014  
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110  
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067  
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256  
\045\131\314\177\065\137\010\367\100\105\061\170\052\172

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root R46"

# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
\167\303\242\220
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root E46"
#
# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Serial Number: 11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066

```



END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204  
\035\230\350\103

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021  
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350  
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061  
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027  
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147  
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003  
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157  
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060  
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060  
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006  
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107  
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061  
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154  
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064  
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014  
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352  
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067  
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006  
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135  
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200  
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220  
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013  
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367  
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074  
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061  
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323  
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign Root E46"

# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43

# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE

# Not Valid Before: Wed Mar 20 00:00:00 2019

# Not Valid After : Tue Mar 20 00:00:00 2046

# Fingerprint (SHA-256):

CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58

# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root E46"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257  
\333\271\335\204

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061  
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204  
\035\230\350\103

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GLOBALTRUST 2020"

#

# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

# Not Valid Before: Mon Feb 10 00:00:00 2020

```
# Not Valid After : Sun Jun 10 00:00:00 2040
# Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122
\125\123\124\040\062\060\062\060\060\060\036\027\015\062\060\060\062
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125
\123\124\040\062\060\062\060\060\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275
```

\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370  
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131  
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174  
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344  
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367  
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011  
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034  
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360  
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127  
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143  
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176  
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116  
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102  
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211  
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066  
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343  
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007  
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051  
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130  
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364  
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134  
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374  
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036  
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274  
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101  
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060  
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224  
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111  
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266  
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037  
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234  
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056  
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150  
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005  
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300  
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244  
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325  
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102  
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052  
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056  
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135  
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276  
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305  
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137  
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323

```
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365
\155\015\277\173\327\222
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GLOBALTRUST 2020"
```

```
# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
```

```
# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
```

```
# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
```

```
# Not Valid Before: Mon Feb 10 00:00:00 2020
```

```
# Not Valid After : Sun Jun 10 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
```

```
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GLOBALTRUST 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046
\117\123\161\242
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ANF Secure Server Root CA"
#
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Not Valid Before: Wed Sep 04 10:00:38 2019
# Not Valid After : Tue Aug 30 10:00:38 2039
# Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066

```

\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006  
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101  
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040  
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060  
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122  
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116  
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040  
\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\015\323\343\274\154\371\153\261

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015  
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125  
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060  
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003  
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144  
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143  
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116  
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125  
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123  
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027  
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015  
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204  
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070  
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105  
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040  
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162  
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003  
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172  
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123  
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157  
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012  
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243  
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004  
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034  
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152  
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330  
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227  
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107  
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274  
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227  
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127  
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034  
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043

\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213  
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012  
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173  
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221  
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317  
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251  
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063  
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246  
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364  
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277  
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370  
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266  
\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147  
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120  
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066  
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367  
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146  
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103  
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101  
\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062  
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037  
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143  
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060  
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243  
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202  
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152  
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360  
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213  
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133  
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223  
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243  
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065  
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244  
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312  
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352  
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066  
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364  
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114  
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261  
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352  
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222  
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163  
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231  
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021  
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276



```
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211
\240\215\254
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ANF Secure Server Root CA"
```

```
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
```

```
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
```

```
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
```

```
# Not Valid Before: Wed Sep 04 10:00:38 2019
```

```
# Not Valid After : Tue Aug 30 10:00:38 2039
```

```
# Fingerprint (SHA-256):
```

```
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
```

```
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ANF Secure Server Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
```

```
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\010\015\323\343\274\154\371\153\261
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum EC-384 CA"

#

# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum EC-384 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
```

```
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
```

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum EC-384 CA"

# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Mon Mar 26 07:24:54 2018

# Not Valid After : Thu Mar 26 07:24:54 2043

# Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum EC-384 CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345

\026\074\341\355

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061

\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157

\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056

\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162

\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157

\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006

\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055

\063\070\064\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272

\163\364

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certum Trusted Root CA"

#

# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

```
# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Fri Mar 16 12:10:13 2018
# Not Valid After : Mon Mar 16 12:10:13 2043
# Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
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\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137  
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END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certum Trusted Root CA"

# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Serial Number:1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

# Not Valid Before: Fri Mar 16 12:10:13 2018

# Not Valid After : Mon Mar 16 12:10:13 2043

# Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certum Trusted Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327  
\105\204\272\345

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051  
END

CKA\_ISSUER MULTILINE\_OCTAL

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\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056  
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162  
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006  
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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117  
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TunTrust Root CA"

#

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"



CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004  
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\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033
\000\361\025\255\203\053\232
```

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "TunTrust Root CA"

# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

# Not Valid Before: Fri Apr 26 08:57:56 2019

# Not Valid After : Tue Apr 26 08:57:56 2044

# Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TunTrust Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040
\106\064\234\273
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HARICA TLS RSA Root CA 2021"

#

# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 10:55:38 2021

# Not Valid After : Mon Feb 13 10:55:37 2045

# Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA TLS RSA Root CA 2021"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
```

\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004  
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123  
\101\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211  
\070\176

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071  
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014  
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064  
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110  
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157  
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145  
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030  
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236  
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004  
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153  
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016  
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257  
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071  
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317  
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014  
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145  
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057  
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360  
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003  
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256  
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333  
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050  
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317

\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030  
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341  
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000  
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201  
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370  
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113  
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052  
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370  
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224  
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353  
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140  
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374  
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220  
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125  
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001  
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045  
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045  
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024  
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071  
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310  
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367  
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364  
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102  
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332  
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206  
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360  
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217  
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050  
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360  
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317  
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027  
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166  
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255  
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230  
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311  
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064  
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311  
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353  
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123  
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002  
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112  
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375  
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337  
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214

```
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HARICA TLS RSA Root CA 2021"
```

```
# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
```

```
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Not Valid Before: Fri Feb 19 10:55:38 2021
```

```
# Not Valid After : Mon Feb 13 10:55:37 2045
```

```
# Fingerprint (SHA-256):
```

```
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
```

```
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "HARICA TLS ECC Root CA 2021"
#
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:01:10 2021
# Not Valid After : Mon Feb 13 11:01:09 2045
# Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
```



\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101  
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157  
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060  
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062  
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006  
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004  
\012\014\056\110\145\154\145\156\151\143\040\101\143\141\144  
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143  
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103  
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111  
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040  
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070  
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073  
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113  
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064  
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130  
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020  
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311  
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225  
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003  
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360  
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160  
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100  
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201  
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015  
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111  
\105\346\354\267\023\341\072\154

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HARICA TLS ECC Root CA 2021"  
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR  
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce  
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR  
# Not Valid Before: Fri Feb 19 11:01:10 2021  
# Not Valid After : Mon Feb 13 11:01:09 2045  
# Fingerprint (SHA-256):  
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01  
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client RSA Root CA 2021"
#
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:58:46 2021
# Not Valid After : Mon Feb 13 10:58:45 2045
# Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156

```

\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061  
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156  
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040  
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165  
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002  
\050\076

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125  
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157  
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060  
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143  
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145  
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151  
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014  
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122  
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060  
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132  
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060  
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067  
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151  
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122  
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164  
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003  
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040  
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253  
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207  
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031  
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217

\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062  
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057  
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123  
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016  
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350  
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125  
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062  
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071  
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070  
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103  
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342  
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254  
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220  
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220  
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140  
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147  
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352  
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373  
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270  
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021  
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240  
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066  
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371  
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217  
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132  
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356  
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310  
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112  
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104  
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107  
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105  
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313  
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247  
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203  
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352  
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336  
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347  
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247  
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241  
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252  
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132  
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253  
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144  
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324

```
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014
\151\317\054\253\073\204\140\063\031\122\375\151\024\063
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HARICA Client RSA Root CA 2021"
```

```
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
```

```
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
```

```
# Not Valid Before: Fri Feb 19 10:58:46 2021
```

```
# Not Valid After : Mon Feb 13 10:58:45 2045
```

```
# Fingerprint (SHA-256):
```

```
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
```

```
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
```

```
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HARICA Client ECC Root CA 2021"

#

# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0

# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

# Not Valid Before: Fri Feb 19 11:03:34 2021

# Not Valid After : Mon Feb 13 11:03:33 2045

# Fingerprint (SHA-256):

8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B

# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HARICA Client ECC Root CA 2021"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
```

\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004  
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164  
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062  
\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020  
\175\360

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061  
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060  
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060  
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003  
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143  
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141  
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163  
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101  
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040  
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015  
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064  
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013  
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006  
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101  
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145  
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156  
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110  
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103  
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367  
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001  
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046  
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133  
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376  
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317  
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227  
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110  
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106  
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253  
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035  
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311  
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370  
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117  
\376\163\012\357\061\260\253\043\130\023\214\213\336\073

```
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "HARICA Client ECC Root CA 2021"
# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:03:34 2021
# Not Valid After : Mon Feb 13 11:03:33 2045
# Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
```



```
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:1b:70:e9:d2:ff:ae:6c:71
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Tue Sep 23 15:22:07 2014
# Not Valid After : Mon May 05 15:22:07 2036
# Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
```

\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103  
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153  
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175  
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050  
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337  
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014  
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301  
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361  
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306  
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354  
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304  
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142  
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164  
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107  
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341  
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347  
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154  
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233  
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217  
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376  
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262  
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053  
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116  
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332  
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177  
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024  
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323  
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103  
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023  
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305  
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372  
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143  
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141  
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001  
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004  
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034  
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003  
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035  
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002  
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151  
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143  
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007  
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157  
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102  
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040

\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145  
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060  
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146  
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266  
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010  
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105  
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323  
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337  
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311  
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201  
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211  
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117  
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256  
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042  
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104  
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361  
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033  
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225  
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054  
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041  
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255  
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246  
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220  
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121  
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025  
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325  
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260  
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102  
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330  
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375  
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343  
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363  
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112  
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160  
\006\137\244\274\372\040\174\125

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Serial Number:1b:70:e9:d2:ff:ae:6c:71

# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

# Not Valid Before: Tue Sep 23 15:22:07 2014

# Not Valid After : Mon May 05 15:22:07 2036

```

# Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus ECC Root CA"
#
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103  
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060  
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103  
\103\040\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103  
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060  
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103  
\103\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244  
\073\346\155\034\326\332

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156  
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155  
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060  
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034  
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150  
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030  
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103  
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067  
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063  
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003  
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012  
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056  
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021  
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103  
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005  
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226  
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224  
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364  
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264  
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347  
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035  
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367  
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006  
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060  
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157

```
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "vTrus ECC Root CA"
```

```
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
```

```
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Not Valid Before: Tue Jul 31 07:26:44 2018
```

```
# Not Valid After : Fri Jul 31 07:26:44 2043
```

```
# Fingerprint (SHA-256):
```

```
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
```

```
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "vTrus ECC Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "vTrus Root CA"
#
# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:24:05 2018
# Not Valid After : Fri Jul 31 07:24:05 2043
# Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023
```

\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054  
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166  
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174  
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113  
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034  
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213  
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263  
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024  
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237  
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271  
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276  
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136  
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147  
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175  
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123  
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152  
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107  
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302  
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176  
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355  
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220  
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166  
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246  
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032  
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147  
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115  
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011  
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232  
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220  
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370  
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132  
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326  
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252  
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301  
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306  
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015  
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255  
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346  
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354  
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235  
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262  
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111



\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143  
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372  
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020  
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314  
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344  
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344  
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257  
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052  
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064  
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322  
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050  
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312  
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353  
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353  
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275  
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375  
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337  
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241  
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101  
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146  
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065  
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117  
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112  
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305  
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247  
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212  
\334\346\164\174\140\206\157\207\227\173

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "vTrus Root CA"

# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN

# Not Valid Before: Tue Jul 31 07:24:05 2018

# Not Valid After : Fri Jul 31 07:24:05 2043

# Fingerprint (SHA-256):

8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87

# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "vTrus Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231

```

\320\311\024\267
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ISRG Root X2"
#
# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Not Valid Before: Fri Sep 04 00:00:00 2020
# Not Valid After : Mon Sep 17 16:00:00 2040
# Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156  
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145  
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003  
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130  
\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057  
\207\122

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101  
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060  
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003  
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145  
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040  
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014  
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015  
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064  
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013  
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006  
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123  
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150  
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023  
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363  
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026  
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352  
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202  
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175  
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312  
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370  
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106  
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244  
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126  
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213  
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244  
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365  
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "ISRG Root X2"

# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

# Not Valid Before: Fri Sep 04 00:00:00 2020

# Not Valid After : Mon Sep 17 16:00:00 2040

# Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ISRG Root X2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307

\132\321\123\257

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156

\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145

\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003

\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130

\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057

\207\122

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "HiPKI Root CA - G1"

#

# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Fri Feb 22 09:46:04 2019

```
# Not Valid After : Thu Dec 31 15:59:59 2037
# Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
```

\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060  
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036  
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041  
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057  
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167  
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354  
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272  
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141  
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361  
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363  
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037  
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004  
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031  
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162  
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227  
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212  
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011  
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305  
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143  
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255  
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132  
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353  
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232  
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301  
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331  
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371  
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303  
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014  
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273  
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103  
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072  
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111  
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125  
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161  
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121  
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250  
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342  
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177  
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030  
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234  
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171  
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027  
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332  
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112

\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066  
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334  
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041  
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320  
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340  
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126  
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204  
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150  
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273  
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315  
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305  
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311  
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164  
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053  
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167  
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340  
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076  
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312  
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200  
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024  
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000  
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253  
\233\141\374\022\121\065\344\045\375\257\252\152\206\071

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "HiPKI Root CA - G1"

# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

# Not Valid Before: Fri Feb 22 09:46:04 2019

# Not Valid After : Thu Dec 31 15:59:59 2037

# Fingerprint (SHA-256):

F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC

# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "HiPKI Root CA - G1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226  
\343\345\322\140

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R4"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004

```



\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060  
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151  
\147\156

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002  
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010  
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003  
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040  
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064  
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141  
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012  
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062  
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060  
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042  
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147  
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040  
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157  
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003  
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023  
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075  
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237  
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261  
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377  
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161  
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177  
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052  
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117  
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073  
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040  
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256  
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRUST\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GlobalSign ECC Root CA - R4"

# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6

# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

# Not Valid Before: Tue Nov 13 00:00:00 2012

```

# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R1"
#
# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011  
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060  
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021  
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100  
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350  
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204  
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247  
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360  
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261  
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043  
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360  
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007  
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330  
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345  
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226

\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117  
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207  
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063  
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312  
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374  
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261  
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216  
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244  
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237  
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372  
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166  
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003  
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276  
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051  
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047  
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260  
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315  
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125  
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201  
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146  
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333  
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042  
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146  
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036  
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153  
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016  
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262  
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076  
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213  
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070  
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337  
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256  
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011  
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017  
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355  
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037  
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131  
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137  
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077  
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035  
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303  
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123  
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337

```
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "GTS Root R1"

# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "GTS Root R2"

#

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002  
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011  
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003  
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163  
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024  
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157  
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060  
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060

\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157  
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151  
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003  
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336  
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065  
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155  
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254  
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237  
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230  
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211  
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316  
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056  
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153  
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255  
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344  
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343  
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011  
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240  
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150  
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116  
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325  
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121  
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334  
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350  
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073  
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351  
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126  
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131  
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252  
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232  
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312  
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336  
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252  
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031  
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377  
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246  
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367  
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307  
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346  
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173  
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074

\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250  
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356  
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202  
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201  
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316  
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256  
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311  
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153  
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040  
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172  
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351  
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257  
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107  
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070  
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372  
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061  
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145  
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121  
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016  
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117  
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240  
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037  
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025  
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225  
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130  
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053  
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145  
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021  
\354\236\355\005\035\344\310\326\035\206\313

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "GTS Root R2"

# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GTS Root R2"



```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R3"
#
# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145  
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040  
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124  
\123\040\122\157\157\164\040\122\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002  
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010  
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012  
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123  
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006  
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122  
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060  
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060  
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154  
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163  
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107  
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130  
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121  
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206  
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156  
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011  
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366  
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022  
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004  
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173  
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230  
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273  
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146  
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316  
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246  
\225\327\124\131\267\347\021\054\211\324\271\356\027

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

```

# Trust for "GTS Root R3"
# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R4"
#
# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
```

```
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "GTS Root R4"

# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

# Not Valid Before: Wed Jun 22 00:00:00 2016

# Not Valid After : Sun Jun 22 00:00:00 2036

# Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Telia Root CA v2"

#

# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Not Valid Before: Thu Nov 29 11:55:54 2018

# Not Valid After : Sun Nov 29 11:55:54 2043

# Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Telia Root CA v2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061  
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040  
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006  
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164  
\040\103\101\040\166\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061  
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040  
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006  
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164  
\040\103\101\040\166\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005  
\236

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001  
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061  
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030  
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156  
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004  
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101  
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065  
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065

\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002  
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154  
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031  
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122  
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342  
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155  
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152  
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312  
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241  
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175  
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230  
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031  
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275  
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244  
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325  
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203  
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074  
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135  
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123  
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204  
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011  
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050  
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154  
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345  
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302  
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134  
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156  
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272  
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203  
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020  
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321  
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012  
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267  
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110  
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154  
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116  
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243  
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024  
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057  
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162  
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206  
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066  
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011

\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062  
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204  
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142  
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333  
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070  
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014  
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346  
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131  
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122  
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240  
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321  
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212  
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335  
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123  
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205  
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226  
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170  
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053  
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020  
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133  
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055  
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244  
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124  
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123  
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306  
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224  
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026  
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146  
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337  
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200  
\254\023\356\120\024\036\230\307

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Telia Root CA v2"

# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e

# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI

# Not Valid Before: Thu Nov 29 11:55:54 2018

# Not Valid After : Sun Nov 29 11:55:54 2043

# Fingerprint (SHA-256):

24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C

# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE



```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
\240\053\100\315
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST BR Root CA 1 2020"
#
# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 09:45:00 2020
# Not Valid After : Sun Feb 11 09:44:59 2035
# Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060

```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163  
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023  
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164  
\040\103\101\040\061\040\062\060\062\060

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113  
\115\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174  
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060  
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060  
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003  
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142  
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060  
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071  
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232  
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166  
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022  
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313  
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147  
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264  
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377  
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102

```
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "D-TRUST BR Root CA 1 2020"
```

```
# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
```

```
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
```

```
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
```

```
# Not Valid Before: Tue Feb 11 09:45:00 2020
```

```
# Not Valid After : Sun Feb 11 09:44:59 2035
```

```
# Fingerprint (SHA-256):
```

```
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
```

```
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315
\364\011\101\147
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST EV Root CA 1 2020"
#
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 10:00:00 2020
# Not Valid After : Sun Feb 11 09:59:59 2035
# Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142

```

\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122  
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061  
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061  
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071  
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006  
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104  
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006  
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126  
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227  
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246  
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202  
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063  
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017  
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303  
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067  
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240  
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056  
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057  
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137  
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240  
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145  
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145  
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105  
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060  
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165  
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143  
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141  
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316  
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052  
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331  
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200  
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221  
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002  
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133  
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "D-TRUST EV Root CA 1 2020"  
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE

```

# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 10:00:00 2020
# Not Valid After : Sun Feb 11 09:59:59 2035
# Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
\075\364\335\007
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert TLS ECC P384 Root G5"
#
# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022
```

```
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270
\015\166\103\214\056\123\313\174\337\014\027\226\120
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert TLS ECC P384 Root G5"
```

```
# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
```

```
# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
```

```
# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
```

```
# Not Valid Before: Fri Jan 15 00:00:00 2021
```

```
# Not Valid After : Sun Jan 14 23:59:59 2046
```

```
# Fingerprint (SHA-256):
```

```
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
```

```
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```



CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert TLS RSA4096 Root G5"

#

# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a

# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75

# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004  
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004  
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040  
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174  
\317\212

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010  
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164  
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023  
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123

\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034  
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101  
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364  
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076  
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011  
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110  
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264  
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034  
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345  
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051  
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267  
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210  
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114  
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374  
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247  
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103  
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024  
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351  
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350  
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016  
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364  
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361  
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367  
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376  
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035  
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351  
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212  
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327  
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155  
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371  
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136  
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175  
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037  
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313  
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001  
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004  
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257  
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015  
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127

\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221  
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160  
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012  
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352  
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307  
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301  
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253  
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305  
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041  
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113  
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020  
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346  
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045  
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244  
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206  
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360  
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157  
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021  
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272  
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276  
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011  
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366  
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160  
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167  
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265  
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205  
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312  
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334  
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212  
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330  
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214  
\332\062\376\303\153\203\077\070\306\176

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert TLS RSA4096 Root G5"

# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a

# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

# Not Valid Before: Fri Jan 15 00:00:00 2021

# Not Valid After : Sun Jan 14 23:59:59 2046

# Fingerprint (SHA-256):

37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75

# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert SMIME ECC P384 Root G5"
#
# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115

```

\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065  
END  
CKA\_ID UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145  
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004  
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115  
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040  
\107\065  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243  
\326\357  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005  
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060  
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111  
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151  
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103  
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027  
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015  
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061  
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025  
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054  
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037  
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105  
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060  
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201  
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147  
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146  
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274  
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315  
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013  
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266  
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125  
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146  
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052  
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104  
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161  
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247  
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060

```
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert SMIME ECC P384 Root G5"
# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
```

```
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
```

```
# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "DigiCert SMIME RSA4096 Root G5"
```

```
#
# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55
# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\060\132
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027
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\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162  
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003  
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105  
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001  
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064  
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105  
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227  
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004  
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360  
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341  
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012  
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267  
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261  
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072  
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070  
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066  
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352  
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060  
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223  
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151  
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367  
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000  
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356  
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152  
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027  
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135  
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206  
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150  
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236  
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261  
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040  
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056  
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214  
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342  
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050  
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207  
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035  
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134  
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247  
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361  
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151  
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224  
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163



\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242  
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121  
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013  
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111  
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351  
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205  
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046  
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137  
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371  
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246  
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307  
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350  
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022  
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072  
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363  
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152  
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333  
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105  
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132  
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030  
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100  
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315  
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216  
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017  
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106  
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076  
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331  
\014\122\100\037\335\116\017\147\046\026\322\255\027\034

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DigiCert SMIME RSA4096 Root G5"  
# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US  
# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55  
# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US  
# Not Valid Before: Fri Jan 15 00:00:00 2021  
# Not Valid After : Sun Jan 14 23:59:59 2046  
# Fingerprint (SHA-256):  
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A  
# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106

\206\320\127\010

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145

\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004

\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115

\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107

\065

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272

\034\125

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certainly Root R1"

#

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root R1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151  
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104  
\071\267\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000  
\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340  
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060  
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022  
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156  
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162  
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036  
\027\015\062\061\060\064\060\061\060\060\060\060\060\132\027  
\015\064\066\060\064\060\061\060\060\060\060\060\132\060\075  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060  
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154  
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164  
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066  
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152  
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201  
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023  
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052  
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056  
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235  
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241  
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154  
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364  
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015  
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364  
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371  
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212  
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246  
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171  
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064  
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211  
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220  
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171  
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244  
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111  
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260  
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265

\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100  
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264  
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027  
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207  
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047  
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204  
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021  
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233  
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003  
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256  
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367  
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022  
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053  
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335  
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131  
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335  
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266  
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025  
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042  
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351  
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114  
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335  
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132  
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042  
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142  
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200  
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245  
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173  
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012  
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015  
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143  
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152  
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346  
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047  
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115  
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301  
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362  
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044  
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112  
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147  
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137  
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051  
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272  
\071\137\212\231\251\101\131\007\260\054\257

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Certainly Root R1"

# Issuer: CN=Certainly Root R1,O=Certainly,C=US

# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

# Subject: CN=Certainly Root R1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Certainly Root R1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272  
\314\206\102\257

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151  
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145  
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104  
\071\267\340

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Certainly Root E1"

#

# Issuer: CN=Certainly Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

```
# Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060
\064\060\061\060\060\060\060\060\132\060\075\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
```

```
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

# Trust for "Certainly Root E1"

# Issuer: CN=Certainly Root E1,O=Certainly,C=US

# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

# Subject: CN=Certainly Root E1,O=Certainly,C=US

# Not Valid Before: Thu Apr 01 00:00:00 2021

# Not Valid After : Sun Apr 01 00:00:00 2046

# Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certainly Root E1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "E-Tugra Global Root CA RSA v3"

#

# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG  
A.S.,L=Ankara,C=TR

# Not Valid Before: Wed Mar 18 09:07:17 2020

# Not Valid After : Sun Mar 12 09:07:17 2045

# Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "E-Tugra Global Root CA RSA v3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101  
\040\166\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162  
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165  
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033  
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124  
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006  
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154  
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101  
\040\166\063

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025  
\006\064\373\171\020\064



END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015  
\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373  
\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122  
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060  
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071  
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004  
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006  
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023  
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123  
\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165  
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162  
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147  
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173  
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215  
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056  
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061  
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135  
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075  
\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174  
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047  
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364  
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277  
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061  
\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076  
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113  
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145  
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061  
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306  
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006  
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323  
\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170  
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276  
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126  
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116  
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151

\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065  
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012  
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133  
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207  
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007  
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336  
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005  
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250  
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124  
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143  
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123  
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262  
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041  
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030  
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232  
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220  
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161  
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057  
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174  
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006  
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165  
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320  
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167  
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357  
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344  
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242  
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203  
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375  
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220  
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175  
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320  
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015  
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303  
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000  
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076  
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170  
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305  
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257  
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261  
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014  
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122  
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060  
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074  
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221

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\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040
\317\073\357\201\161\203\131
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "E-Tugra Global Root CA RSA v3"
# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:07:17 2020
# Not Valid After : Sun Mar 12 09:07:17 2045
# Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

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#
# Certificate "E-Tugra Global Root CA ECC v3"
#
# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:46:58 2020
# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046

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\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227  
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060  
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141  
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147  
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006  
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162  
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003  
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157  
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040  
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066  
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065  
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002  
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153  
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055  
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035  
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141  
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060  
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040  
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105  
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075  
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051  
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020  
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303  
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107  
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012  
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342  
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060  
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377  
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245  
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202  
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220  
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002  
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151  
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313  
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232  
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372  
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145  
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307  
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161  
\276\150\344\043\244\331\255\241\067

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "E-Tugra Global Root CA ECC v3"

```
# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:46:58 2020
# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"
#
# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
# Not Valid Before: Thu Jan 21 10:50:34 2021
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# Not Valid After : Mon Jan 15 10:50:34 2046
# Fingerprint (SHA-256):
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164
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\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141  
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111  
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122  
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323  
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170  
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134  
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250  
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350  
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366  
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032  
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056  
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045  
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147  
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010  
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140  
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042  
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365  
\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320  
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205  
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061  
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115  
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004  
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012  
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204  
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245  
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047  
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307  
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076  
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160  
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267  
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132  
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121  
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363  
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316  
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030  
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001  
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026  
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024  
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004  
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332  
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001  
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370  
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341  
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360



\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322  
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363  
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065  
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111  
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004  
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177  
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240  
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124  
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150  
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171  
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205  
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153  
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324  
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111  
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127  
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072  
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233  
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156  
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047  
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244  
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004  
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025  
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001  
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054  
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216  
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256  
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040  
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066  
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236  
\176\113\144\244\125\135\053\027\311

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"

# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

# Not Valid Before: Thu Jan 21 10:50:34 2021

# Not Valid After : Mon Jan 15 10:50:34 2046

# Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NSS\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
# Not Valid Before: Thu Jan 21 11:07:50 2021
# Not Valid After : Mon Jan 15 11:07:50 2046
# Fingerprint (SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006

```

\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061  
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141  
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144  
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006  
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107  
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103  
\104\123\101\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055  
\344\353\372\235\266\341

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066  
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372  
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060  
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052  
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154  
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157  
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003  
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116  
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104  
\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061\061  
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061  
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104  
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151  
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154  
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124  
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117  
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215  
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111  
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311  
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206  
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023  
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155  
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004  
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002  
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016

```
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314
\065\352\216\044\233\345\010\131\307\004\214\163\170\376
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"
```

```
# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
```

```
# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Not Valid Before: Thu Jan 21 11:07:50 2021
```

```
# Not Valid After : Mon Jan 15 11:07:50 2046
```

```
# Fingerprint (SHA-256):
```

```
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
```

```
# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000
\057\322\112\212
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication RootCA3"
#
# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:e1:7c:37:40:fd:1b:fe:67
# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 06:17:16 2016
# Not Valid After : Mon Jan 18 06:17:16 2038
# Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023

```

\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060  
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122  
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066  
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060  
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004  
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034  
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164  
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045  
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040  
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157  
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251  
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065  
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053  
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371  
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164  
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300  
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064  
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120  
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006  
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301  
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075  
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173  
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132  
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041  
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273  
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124  
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374  
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270  
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021  
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340  
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036  
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017  
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355  
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055  
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270  
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055  
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314  
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137  
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115  
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320  
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122  
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021  
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162

\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202  
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322  
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151  
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132  
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300  
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311  
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115  
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235  
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255  
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065  
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010  
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072  
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112  
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076  
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134  
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010  
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036  
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047  
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156  
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337  
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074  
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062  
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025  
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273  
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123  
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303  
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166  
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020  
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377  
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076  
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045  
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235  
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063  
\235\115\146

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE

CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "Security Communication RootCA3"

# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Serial Number:00:e1:7c:37:40:fd:1b:fe:67

# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

# Not Valid Before: Thu Jun 16 06:17:16 2016

# Not Valid After : Mon Jan 18 06:17:16 2038

```

# Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication ECC RootCA1"
#
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 05:15:28 2016
# Not Valid After : Mon Jan 18 05:15:28 2038
# Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```



CKA\_SUBJECT MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023  
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164  
\103\101\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061  
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040  
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117  
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023  
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156  
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164  
\103\101\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\011\000\326\135\233\263\170\201\056\353

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000  
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316  
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023  
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105  
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155  
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003  
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157  
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040  
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061  
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070  
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125  
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023  
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163  
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060  
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171  
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105  
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007  
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142  
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053  
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216  
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145  
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136  
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334  
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112  
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004

```
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142
\033\022\372\026\115\045\113\143\275\036\067\331
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Security Communication ECC RootCA1"
```

```
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
```

```
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Not Valid Before: Thu Jun 16 05:15:28 2016
```

```
# Not Valid After : Mon Jan 18 05:15:28 2038
```

```
# Fingerprint (SHA-256):
```

```
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
```

```
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\000\326\135\233\263\170\201\056\353
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA1"
#
# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:16:17 2019
# Not Valid After : Mon Dec 12 03:16:17 2044
# Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124

```

\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060  
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040  
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110  
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024  
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063  
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061  
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023  
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105  
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124  
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006  
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141  
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331  
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372  
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210  
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031  
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206  
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176  
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271  
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077  
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372  
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021  
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124  
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027  
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145  
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260  
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144  
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352  
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056  
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023  
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312  
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157  
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050  
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277  
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203  
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350  
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116  
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127  
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361  
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347  
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211  
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125  
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376  
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300  
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001  
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305

\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223  
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001  
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362  
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270  
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014  
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002  
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142  
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301  
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251  
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156  
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310  
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313  
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074  
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363  
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375  
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015  
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072  
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204  
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250  
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322  
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161  
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310  
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361  
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074  
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163  
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342  
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362  
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075  
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334  
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365  
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366  
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315  
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312  
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362  
\257\376\263\160\054\056\246\362

END

CKA\_NSS\_MOZILLA\_CA\_POLICY CK\_BBOOL CK\_TRUE  
CKA\_NSS\_SERVER\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE  
CKA\_NSS\_EMAIL\_DISTRICT\_AFTER CK\_BBOOL CK\_FALSE

# Trust for "BJCA Global Root CA1"  
# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN  
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20  
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN  
# Not Valid Before: Thu Dec 19 03:16:17 2019  
# Not Valid After : Mon Dec 12 03:16:17 2044

```

# Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA2"
#
# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:18:21 2019
# Not Valid After : Mon Dec 12 03:18:21 2044
# Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"

```

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116  
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125  
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003  
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157  
\157\164\040\103\101\062

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061  
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116  
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125  
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003  
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157  
\157\164\040\103\101\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264  
\112\353

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054  
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060  
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060  
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003  
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122  
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111  
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103  
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101  
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062  
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061  
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116  
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111  
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101  
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004  
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110  
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235  
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101  
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213  
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103  
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276  
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347  
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243  
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112  
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324

```
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "BJCA Global Root CA2"
```

```
# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
```

```
# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
```

```
# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
```

```
# Not Valid Before: Thu Dec 19 03:18:21 2019
```

```
# Not Valid After : Mon Dec 12 03:18:21 2044
```

```
# Fingerprint (SHA-256):
```

```
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
```

```
# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "BJCA Global Root CA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
```

END



CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NSS\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NSS\_MUST\_VERIFY\_TRUST  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

Found in path(s):

\* /opt/cola/permits/1667253608\_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt

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/\* c\_rehash.c - Create hash symlinks for certificates

\* C implementation based on the original Perl and shell versions

\*

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\*/

Found in path(s):

\* /opt/cola/permits/1667253608\_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c\_rehash.c

# 1.150 micronaut-inject 3.9.4

## 1.150.1 Available under license :

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- \*/

Found in path(s):

- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/ReflectTypeElement.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/qualifiers/AnyQualifier.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/event/BeanDestroyedEventListener.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/visitor/BeanImportVisitor.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/annotation/internal/JakartaPostConstructTransformer.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/writer/DispatchWriter.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/AbstractConstructorInjectionPoint.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/beans/BeanMethodElement.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/beans/BeanElementBuilder.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/beans/BeanElement.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/BeanProvider.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/scope/AbstractConcurrentCustomScope.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/SimpleClassElement.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/beans/BeanParameterElement.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/ast/DefaultElementQuery.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/qualifiers/RepeatableAnnotationQualifier.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/writer/AbstractBeanDefinitionBuilder.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/qualifiers/PrimaryQualifier.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/qualifiers/NoneQualifier.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/qualifiers/ExactTypeArgumentNameQualifier.java
- \* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-

jar/io/micronaut/context/env/ConstantPropertySources.java  
\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-  
jar/io/micronaut/inject/ast/beans/InjectableElement.java  
\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-  
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jar/io/micronaut/context/DefaultFieldConstructorInjectionPoint.java  
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\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/annotation/ConfigurationReader.java

\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/AbstractBeanResolutionContext.java

\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/ApplicationContextConfiguration.java

\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/DefaultConditionContext.java

\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/ReflectionMethodConstructorInjectionPoint.java



\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/annotation/EachProperty.java  
\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/annotation/package-info.java  
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\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/AbstractExecutableMethod.java

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\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/writer/ProxyingBeanDefinitionVisitor.java

\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/inject/annotation/internal/PersistenceContextAnnotationMapper.java

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\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/annotation/Secondary.java

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\* /opt/cola/permits/1743477351\_1689201654.4825068/0/micronaut-inject-3-9-4-sources-jar/io/micronaut/context/exceptions/MessageUtils.java  
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include/GL/glxext.h  
include/GL/wglxext.h :
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## 1.153 micronaut-grpc-server-runtime 3.6.0

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\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/package-info.java  
\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/GrpcServerConfiguration.java  
\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/GrpcEmbeddedServer.java  
\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/GrpcServerInstance.java  
\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/GrpcSslConfiguration.java  
\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/GrpcServerChannel.java  
\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/GrpcEmbeddedServerListener.java

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\* /opt/cola/permits/1703220402\_1685662145.560743/0/micronaut-grpc-server-runtime-3-6-0-sources-jar/io/micronaut/grpc/server/interceptor/OrderedServerInterceptor.java  
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# 1.154 opentracing-util 0.33.0

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\* /opt/cola/permits/1257211068\_1642789583.52/0/opentracing-util-0-33-0-sources-jar/io/opentracing/util/ThreadLocalScopeManager.java

\* /opt/cola/permits/1257211068\_1642789583.52/0/opentracing-util-0-33-0-sources-jar/io/opentracing/util/GlobalTracer.java

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\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/log/Fields.java

\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/Tracer.java

\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-

jar/io/opentracing/SpanContext.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/tag/Tags.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/BinaryInject.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/BinaryExtract.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/TextMapExtract.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/tag/StringTag.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/BinaryAdapters.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/TextMap.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/Format.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/TextMapExtractAdapter.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/Span.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/References.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/tag/AbstractTag.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/Scope.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/tag/BooleanTag.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/TextMapInject.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/TextMapInjectAdapter.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/tag/Tag.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/TextMapAdapter.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/tag/IntTag.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/ScopeManager.java  
\* /opt/cola/permits/1257211210\_1642789561.33/0/opentracing-api-0-33-0-sources-jar/io/opentracing/propagation/Binary.java

# 1.156 vault-java-driver 5.1.0

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## 1.157 opentracing-noop 0.33.0

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\* /opt/cola/permits/1257210881\_1642789614.43/0/opentracing-noop-0-33-0-sources-jar/io/opentracing/noop/NoopSpanContext.java

\* /opt/cola/permits/1257210881\_1642789614.43/0/opentracing-noop-0-33-0-sources-jar/io/opentracing/noop/NoopTracerFactory.java

\* /opt/cola/permits/1257210881\_1642789614.43/0/opentracing-noop-0-33-0-sources-jar/io/opentracing/noop/NoopTracer.java

\* /opt/cola/permits/1257210881\_1642789614.43/0/opentracing-noop-0-33-0-sources-jar/io/opentracing/noop/NoopSpan.java

\* /opt/cola/permits/1257210881\_1642789614.43/0/opentracing-noop-0-33-0-sources-jar/io/opentracing/noop/NoopSpanBuilder.java

# 1.158 netty-resolver 4.1.94.Final

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\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/DefaultAddressResolverGroup.java

\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/CompositeNameResolver.java

\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/DefaultNameResolver.java

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\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/DefaultHostsFileEntriesResolver.java

\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/AddressResolver.java

\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-

jar/io/netty/resolver/InetSocketAddressResolver.java  
\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/HostsFileEntriesResolver.java  
\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/AbstractAddressResolver.java  
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\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/NoopAddressResolver.java  
\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/package-info.java  
\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/SimpleNameResolver.java  
\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/AddressResolverGroup.java  
\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/NameResolver.java  
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\* /opt/cola/permits/1735715995\_1688166915.6076818/0/netty-resolver-4-1-94-final-sources-jar/io/netty/resolver/ResolvedAddressTypes.java

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jar/io/netty/util/concurrent/NonStickyEventExecutorGroup.java  
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jar/io/netty/util/concurrent/UnorderedThreadPoolEventExecutor.java  
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jar/io/netty/util/internal/ThrowableUtil.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/concurrent/OrderedEventExecutor.java

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jar/io/netty/util/ResourceLeakDetector.java  
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\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/AttributeKey.java  
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jar/io/netty/util/NetUtil.java  
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Found in path(s):

- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SpSCGrowAtomicArrayQueue.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/package-info.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/BaseLinkedQueue.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscUnboundedArrayQueue.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpSCArrayQueue.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingHashMapLong.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingHashSet.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingHashMap.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscUnboundedXaddArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingIdentityHashMap.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpscLinkedQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscGrowableArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscCompoundQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscChunkedArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpmcArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/LinkedListNode.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/BaseSpscLinkedArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/BaseMpscLinkedArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SpscLinkedAtomicQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscUnboundedXaddChunk.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/AbstractEntry.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SpmcAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/spec/Preference.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/UnsafeLongArrayAccess.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscUnboundedAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpmcUnboundedXaddArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpmcAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscGrowableAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MessagePassingQueueUtil.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/Pow2.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscBlockingConsumerArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpscGrowableArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/RangeUtil.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/UnsafeJvmInfo.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/spec/ConcurrentQueueSpec.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/InternalAPI.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/AtomicReferenceArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/QueueFactory.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpscUnboundedArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SpscAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SpscChunkedAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/ConcurrentSequencedCircularArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpmcArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/BaseSpscLinkedAtomicArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/ConcurrentAutoTable.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MessagePassingQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/ConcurrentCircularArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SupportsIterator.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpmcUnboundedXaddChunk.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SequencedAtomicReferenceArrayQueue.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/maps/NonBlockingSetInt.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/IndexedQueueSizeUtil.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/SpscChunkedArrayQueue.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/BaseMpscLinkedAtomicArrayQueue.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/UnsafeAccess.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/UnsafeRefArrayAccess.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/spec/Ordering.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscChunkedAtomicArrayQueue.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/AtomicQueueFactory.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/MpscLinkedQueue.java  
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\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/MpscLinkedAtomicQueue.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/util/PortableJvmInfo.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/SpscUnboundedAtomicArrayQueue.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/shaded/org/jctools/queues/atomic/LinkedQueueAtomicNode.java  
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\*/

Found in path(s):

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/InternalThreadLocalMap.java

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-



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jar/io/netty/util/concurrent/FastThreadLocal.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/concurrent/PromiseAggregator.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/ResourceLeakHint.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
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* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/AsciiString.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/concurrent/PromiseNotifier.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/Mapping.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/internal/UnpaddedInternalThreadLocalMap.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/ThreadDeathWatcher.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/internal/IntegerHolder.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/DomainNameMapping.java
No license file was found, but licenses were detected in source scan.

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        </includes>
      </configuration>
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    <plugin>
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      <artifactId>maven-bundle-plugin</artifactId>
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        </instructions>
      </configuration>
    </plugin>
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      <artifactId>maven-javadoc-plugin</artifactId>

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

<url>https://github.com/JCTools</url>
<inceptionYear>2013</inceptionYear>

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

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

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

```

```

<developer>
  <url>https://github.com/mjpt777</url>
</developer>
<developer>
  <url>https://github.com/RichardWarburton</url>
</developer>
<developer>
  <url>https://github.com/kay</url>
</developer>
<developer>
  <url>https://github.com/franz1981</url>
</developer>
</developers>

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  <maven>3.5.0</maven>
</prerequisites>

<properties>
  <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
  <java.version>1.6</java.version>
  <java.test.version>1.8</java.test.version>

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

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

```

Found in path(s):

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/META-INF/maven/org.jctools/jctools-core/pom.xml

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\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/META-INF/native-image/io.netty/netty-common/native-image.properties

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```
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 */
/*
 * Written by Doug Lea with assistance from members of JCP JSR-166
 * Expert Group and released to the public domain, as explained at
 * https://creativecommons.org/publicdomain/zero/1.0/
 */
```

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```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/internal/ThreadLocalRandom.java
```

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```

Found in path(s):

```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/internal/ResourcesUtil.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
```

jar/io/netty/util/ByteProcessorUtils.java

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io.netty.util.internal.Hidden$NettyBlockHoundIntegration
```

Found in path(s):

```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/META-
INF/services/reactor.blockhound.integration.BlockHoundIntegration
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```
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jar/io/netty/util/internal/CleanerJava9.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/concurrent/FastThreadLocalRunnable.java
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-
jar/io/netty/util/internal/Cleaner.java
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```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/META-INF/maven/io.netty/netty-common/pom.xml
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```
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```

```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/PriorityQueue.java
```

```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/ReflectionUtil.java
```

```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/EmptyPriorityQueue.java
```

```
* /opt/cola/permits/1735715999_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/SuppressForbidden.java
```

\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/logging/LocationAwareSlf4JLogger.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/UncheckedBooleanSupplier.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/ObjectCleaner.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/NettyRuntime.java

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\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/logging/FormattingTuple.java

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jar/io/netty/util/collection/ByteCollections.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/LongObjectMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/LongCollections.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/ShortObjectHashMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/CharObjectMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/internal/ObjectUtil.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/CharCollections.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/IntObjectHashMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/LongObjectHashMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/IntCollections.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/IntObjectMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/ShortCollections.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/ShortObjectMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/ByteObjectHashMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/ByteObjectMap.java  
\* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-  
jar/io/netty/util/collection/CharObjectHashMap.java

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- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/svm/PlatformDependentSubstitution.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/svm/UnsafeRefArrayAccessSubstitution.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/svm/package-info.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/Hidden.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/ThreadExecutorMap.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/svm/CleanerJava6Substitution.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/ReferenceCountUpdater.java
- \* /opt/cola/permits/1735715999\_1688166888.7344394/0/netty-common-4-1-94-final-sources-jar/io/netty/util/internal/ObjectPool.java

## 1.160 error\_prone\_annotations 2.10.0

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

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

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

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

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

# 1.161 json-java 20210307

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# 1.162 micronaut-websocket 3.9.4

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Found in path(s):

- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/bind/WebSocketStateBinderRegistry.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/package-info.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/interceptor/ClientWebSocketInterceptor.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/WebSocketSession.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/ClientWebSocket.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/bind/package-info.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/WebSocketComponent.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/WebSocketBroadcaster.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/event/WebSocketSessionClosedEvent.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/interceptor/package-info.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/bind/WebSocketStateBinder.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/package-info.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/WebSocketClient.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/OnClose.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/context/WebSocketBeanRegistry.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/context/package-info.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/WebSocketVersion.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/CloseReason.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/OnMessage.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/event/WebSocketMessageProcessedEvent.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/exceptions/WebSocketSessionException.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/context/WebSocketBean.java
- \* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/ServerWebSocket.java



\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/interceptor/WebSocketSessionAware.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/exceptions/package-info.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/event/WebSocketEvent.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/event/WebSocketSessionOpenEvent.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/OnError.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/context/DefaultWebSocketBeanRegistry.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/exceptions/WebSocketException.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/bind/WebSocketState.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/WebSocketMapping.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/annotation/OnOpen.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/event/package-info.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/WebSocketClientRegistry.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/exceptions/WebSocketClientException.java  
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\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-jar/io/micronaut/websocket/WebSocketClientFactory.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-

jar/io/micronaut/websocket/WebSocketPongMessage.java  
\* /opt/cola/permits/1743477305\_1689201645.9751158/0/micronaut-websocket-3-9-4-sources-  
jar/io/micronaut/websocket/WebSocketClientFactoryResolver.java

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## 1.164 zlib 1.2.13-r1

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

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

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

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

jar/com/google/gson/internal/UnsafeAllocator.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/LazilyParsedNumber.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/GsonBuildConfig.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/ArrayTypeAdapter.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/internal/bind/JsonTreeReader.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/CollectionTypeAdapterFactory.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/MapTypeAdapterFactory.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/TypeAdapterFactory.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/JsonReaderInternalAccess.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/TypeAdapters.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/ObjectTypeAdapter.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/TypeAdapter.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/internal/bind/JsonTreeWriter.java  
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\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/JsonStreamParser.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/LongSerializationPolicy.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-  
jar/com/google/gson/FieldAttributes.java  
\* /opt/cola/permits/1330613678\_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonParser.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/$Gson$Types.java
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonElement.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonObject.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonArray.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/FieldNamingStrategy.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/annotations/SerializedName.java
```

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

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

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

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*/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/reflect/PreJava9ReflectionAccessor.java
*/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/reflect/ReflectionAccessor.java
*/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/reflect/UnsafeReflectionAccessor.java
*/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/PreJava9DateFormatProvider.java
*/opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/JavaVersion.java
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jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/annotations/JsonAdapter.java
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## 1.167 listenablefuture 9999.0-empty-to-avoid-conflict-with-guava

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INF/native-image/io.micronaut.protobuf/protobuf-support/native-image.properties
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\* /opt/cola/permits/1703220426\_1685662147.954895/0/micronaut-protobuf-support-3-6-0-sources-jar/io/micronaut/protobuf/convert/ProtoMessageToByteBufConverter.java  
\* /opt/cola/permits/1703220426\_1685662147.954895/0/micronaut-protobuf-support-3-6-0-sources-jar/io/micronaut/protobuf/codec/ExtensionRegistryFactory.java  
\* /opt/cola/permits/1703220426\_1685662147.954895/0/micronaut-protobuf-support-3-6-0-sources-jar/io/micronaut/protobuf/codec/ProtobufferCodec.java

# 1.169 httpcomponents-client 4.5.13

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 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/impl/StaticMDCBinder.java  
 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/BasicMarkerFactory.java  
 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/LocationAwareLogger.java  
 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/FormattingTuple.java  
 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/MarkerFactoryBinder.java  
 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/MessageFormatter.java  
 \* /opt/cola/permits/1512417657\_1673636624.6005318/0/slf4j-api-1-6-6-sources-

```
jar/org/slf4j/helpers/NamedLoggerBase.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/spi/LoggerFactoryBinder.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/MDC.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/Util.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/NOPLogger.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/ILoggerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/Logger.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/NOPLoggerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/helpers/BasicMarker.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/Marker.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-
jar/org/slf4j/impl/StaticMarkerBinder.java
```

# 1.172 netty-handler-proxy 4.1.94.Final

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-->
```

Found in path(s):

```
* /opt/cola/permits/1735716141_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/META-
INF/maven/io.netty/netty-handler-proxy/pom.xml
```

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Found in path(s):

\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/Socks5ProxyHandler.java  
\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/ProxyConnectionEvent.java  
\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/ProxyHandler.java  
\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/Socks4ProxyHandler.java  
\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/HttpProxyHandler.java  
\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/ProxyConnectException.java  
\* /opt/cola/permits/1735716141\_1688166928.4569623/0/netty-handler-proxy-4-1-94-final-sources-jar/io/netty/handler/proxy/package-info.java

# 1.173 httpcomponents-mime 4.5.12

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# 1.174 swagger-annotations 2.2.9

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/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/[: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/[[: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/acpid: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/add-shell: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/addgroup: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/adduser: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/adjtimex: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ar: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/arch: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/arp: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/arping: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ascii: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ash: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/awk: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/base32: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/base64: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/basename: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bc: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/beep: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/blkdiscard: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/blkid: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/blockdev: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bootchartd: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/brctl: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bunzip2: binary file

matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/busybox: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bzcat: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/bzip2: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cal: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cat: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chat: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chattr: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chgrp: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chmod: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chown: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chpasswd: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chpst: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chroot: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chrt: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/chvt: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cksum: binary file

matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/clear: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cmp: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/comm: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/conspy: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cp: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cpio: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/crc32: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/crond: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/crontab: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cryptpw: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cttyhack: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/cut: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/date: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dc: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dd: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/deallocvt: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/delgroup: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/deluser: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/depmod: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/devmem: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/df: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dhcrelay: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/diff: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dirname: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dmesg: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dnsd: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dnsdomainname: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dos2unix: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dpkg: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dpkg-deb: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/du: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dumpkmap: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/dumpleases: binary

file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/echo: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ed: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/egrep: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/eject: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/env: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/envdir: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/envuidgid: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ether-wake: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/expand: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/expr: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/factor: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fakeidentd: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fallocate: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/false: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fatattr: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fbset: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fbsplash: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fdflush: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fdformat: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fdisk: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fgconsole: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fgrep: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/find: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/findfs: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/flock: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fold: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/free: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/freeramdisk: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsck: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsck.minix: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsfreeze: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fstrim: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fsync: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ftpd: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ftpget: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ftpput: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/fuser: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/getconf: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/getopt: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/getty: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/grep: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/groups: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/gunzip: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/gzip: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/halt: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hd: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hdparm: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/head: binary file matches



/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hexdump: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hexedit: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hostid: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hostname: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/httpd: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hush: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/hwclock: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cdetect: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cdump: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cget: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2cset: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/i2ctransfer: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/id: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifconfig: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifdown: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifenslave: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-

tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifplugd: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ifup: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/inetd: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/init: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/inssmod: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/install: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ionice: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iostat: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ip: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipaddr: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipcalc: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipcrm: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipcs: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iplink: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ipneigh: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iproute: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iprule: binary file

matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/iptables: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/kbd\_mode: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/kill: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/killall: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/killall5: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/klogd: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/last: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/less: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/link: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/linux32: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/linux64: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/linuxrc: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/ln: binary file matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/loadfont: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/loadkmap: binary file  
matches  
/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-  
tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/logger: binary file  
matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/login: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/logname: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/logread: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/losetup: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lpd: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lpq: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/bin/lpr: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/lib/ld-linux-x86-64.so.2: binary file matches

/opt/cola/permits/1718052171\_1689108350.1224272/0/busybox-1-36-1-tar/26df83144e64e48e51ea1304fc1d8337d5aab3e9f5237639a7ba661d8a79966b/layer-tar/lib/libc.so.6: binary file matches

Found in path(s):

\* /bin/grep

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